Car Stereo Modular System 22DC983/02R

Service
Service
Service

ERSATZTEILE
für Philips Car Systems
erhalten Sie bei:
KiVi Service GmbH
Windmühlenstr. 41 · 31178 Giesen/Emmerke
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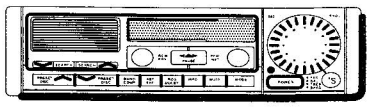

For repair information of the cassette mechanism see Service Manual of Car cassette deck SCA 1.1

+ 4241

Service Manual

12 V

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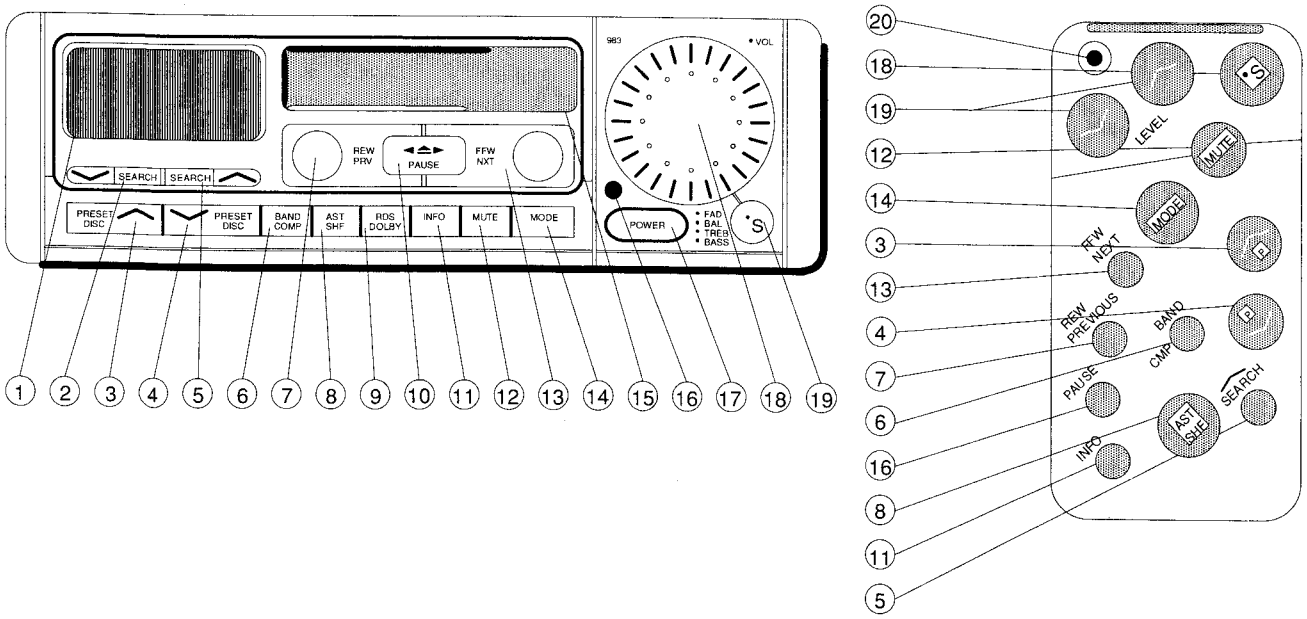
Published by
Consumer Electronics

1b

Controls



Nr.:		Radio - mode	Cassette - mode	CD - mode
1	Display	Tuner	Cassette	CD - Player
2	Search	Search down manual down		fast play backwards
3	Preset	station up		next Disc
4	Preset	station down		previous Disc
5	Search	Search up manual up		fast play forwards
6	Band / Comp	select waveband		compress sound dynamics
7	REW / MSS / PREV		MSS, wind fast backward	track down, scan down
8	AST / SHF	Autostore (for FM + AM)		Shuffle (random title selection at current Disc)
9	RDS / Dolby	RDS, RDS - reg., on / off	Dolby B, C, off	
10	NOR / REV / Pause / Eject		Select NOR / REV, stop winding, eject	playback interruption
11	Info	only stations with DK receivable	pause, when traffic - information	pause, when traffic - information
12	Mute	only traffic - information audible		
13	FFW / MSS / NXT		MSS, wind fast forward	track up, scan up
14	Mode	Tuner	Cassette, if in	CD - Player, if connected
15	Cassette entry			
16	Infra red receiver eye			
17	Power	System on / off, starts with last selected mode		
18	Audio	for adjust fader, balance, bass, treble, volume		
19	Selector	for fader, balance, bass, treble, volume		
20	Confirmation LED			

TECHNICAL DATA

General

Power supply	: + 14,4V
Dimensions	
Headunit (frame)	: 180 x 51 x 149 mm
tuner / amp (frame)	: 180 x 51 x 149 mm
remote contr.	: 50 x 100 x 20 mm

Radio

FM	: 87,5 - 108 MHz
LW	: 144 - 288 kHz
MW	: 531 - 1611 kHz
SW	: 5,95 - 6,2 MHz (49 m band)
Freq. grid FM	: 50 kHz
Freq. grid LW	: 1 kHz
Freq. grid MW	: 9 kHz
Freq. grid SW	: 1 kHz
IF - AM	: 10,7 MHz
IF - FM	: 10,7 MHz
Sensitivity for 26 dB S/R	: 3 uV (FM)
	: 180 uV (LW)
	: 140 uV (MW)
	: 110 uV (SW)
Limitation a -3 dB	: 15 uV
10 dB crosstalk	: 140 uV

Amplifier

Output power (D = 10%)	: 4 x 17 W
Line out	: 630 mV
Bass	: + 14 / -12 dB at 100 Hz
Treble	: + 12 / -12 dB at 10 kHz

Tape Deck

Number of tracks	: 2 x 2
Tape speed	: 4,76 cm/s +/- 2%
Fast wind / rewind C 60	: <120 s
Wow and Flutter	: < / = 0,3 % (DIN weighted)
Noise reduction	
Dolby B	: 8 dB
Dolby C	: 16 dB

Service test programm

ROMcode - + EEPROM - test:

1. Preset + SEARCH + POWER on
2. Display (for example): R C A 6 E E A

uC - pair ROMcode nr. EEPROM - version

3. POWER off

IR - and Display - test:

1. PRESET + PRESET + POWER on
2. Display : IR TEST
3. Remote control key
4. Display : IRTESTOK
5. Remote control keys
6. Display : test symbols
7. POWER off

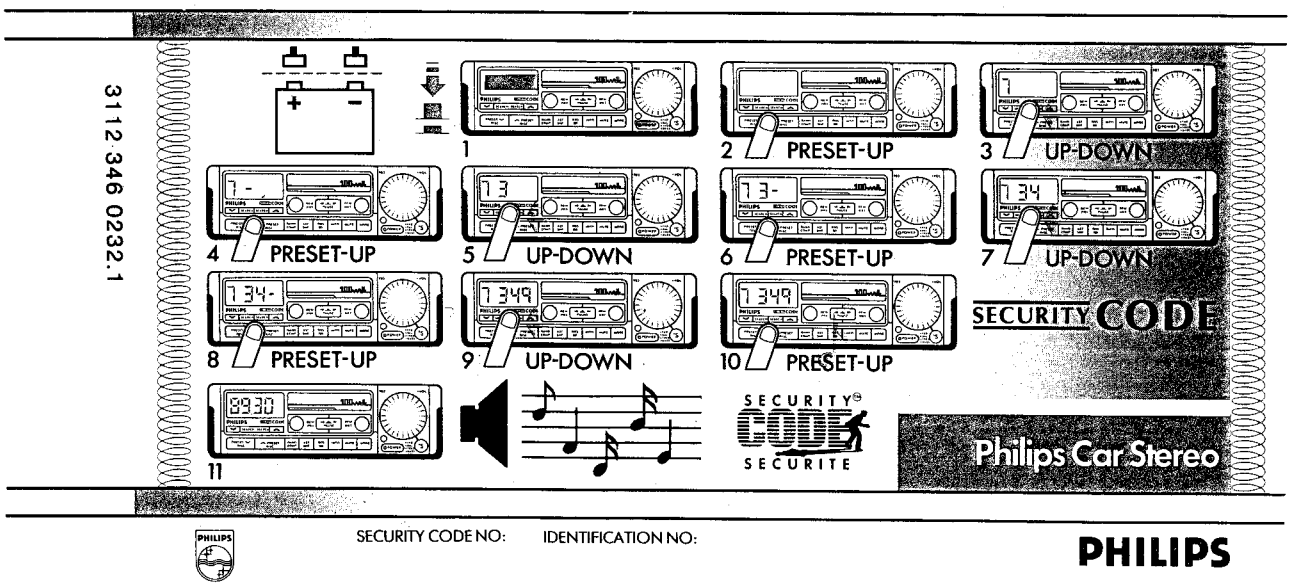
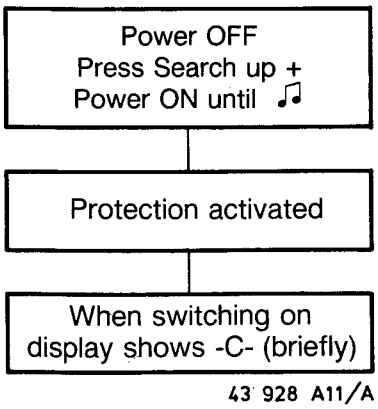


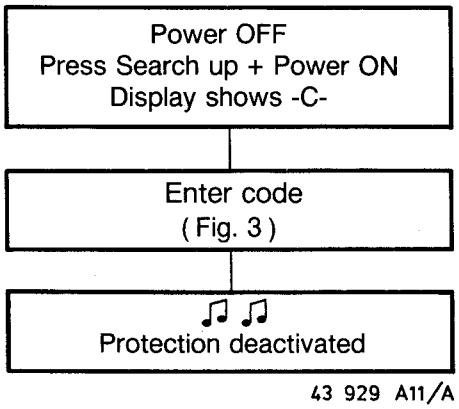
Fig. 3

Activate protection



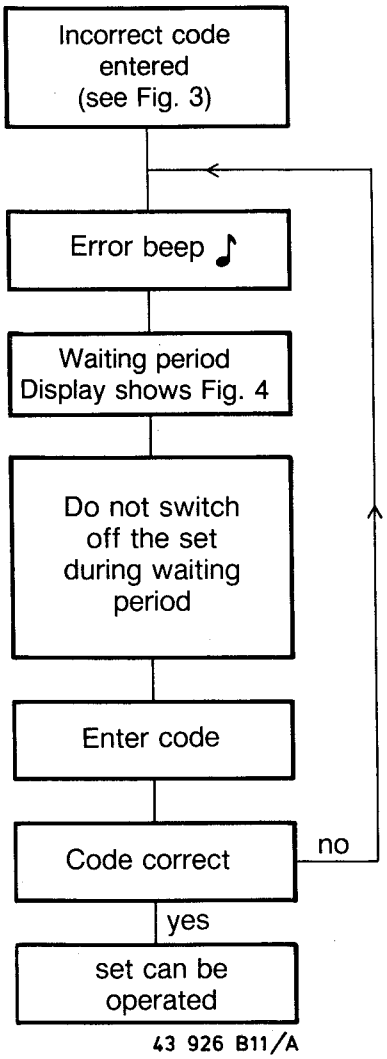
43 928 A11/A

Deactivating protection



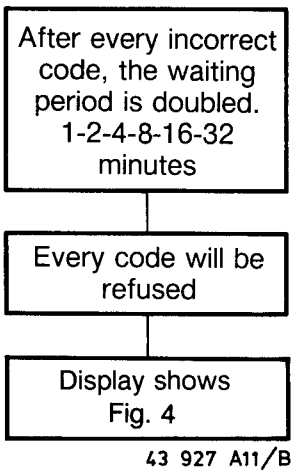
43 929 A11/A

Incorrect code

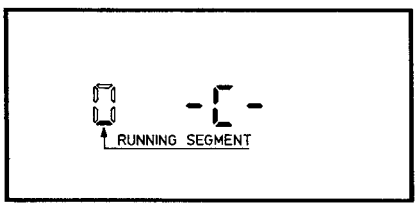


43 926 B11/A

Waiting period



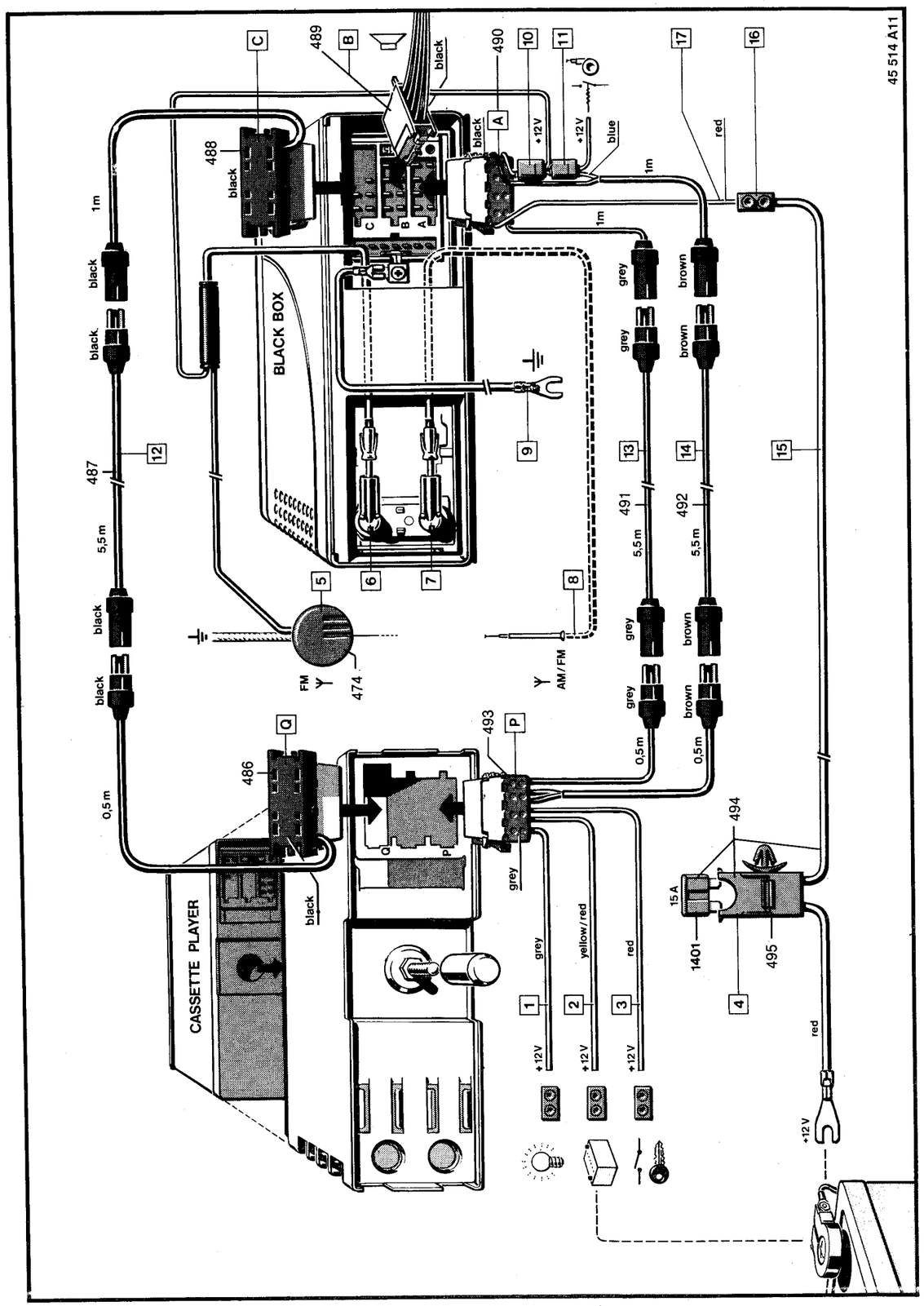
43 927 A11/B



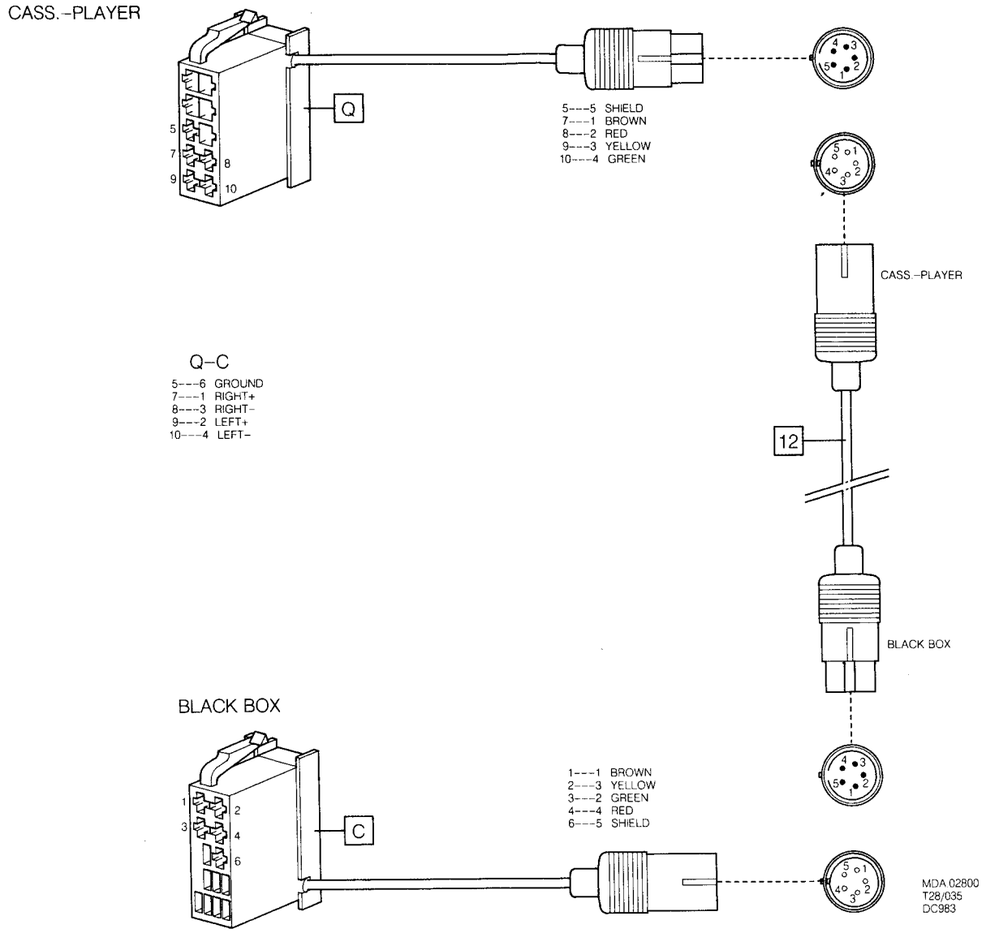
43 738 A11/A

Fig. 4

3a

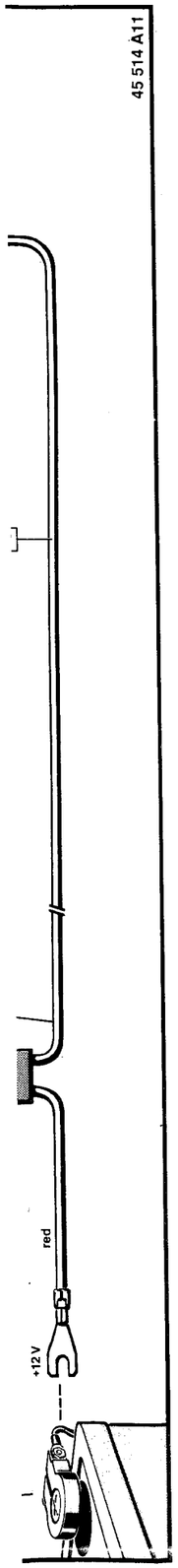


3b



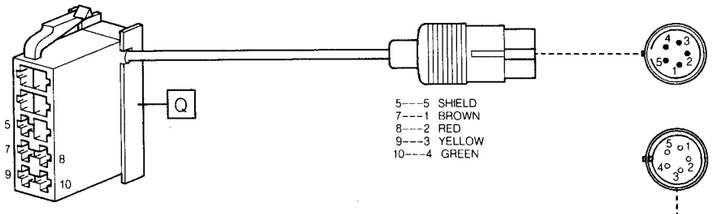
LIST OF PARTS, CABLES

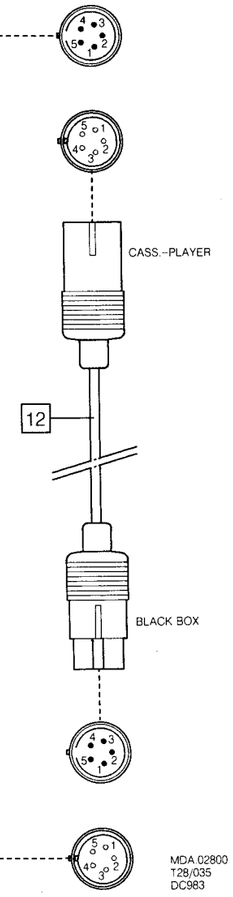
CONNECTOR	DESCRIPTION	ITEM	CODE NUMBER
5	Active aerial, FM	474	4822 218 10341
Q	Audio out, cass. player	486	4822 321 60701
12	Extension, audio	487	4822 321 60797
C	Audio in, black box	488	4822 321 23625
B	Loudspeakers	489	4822 321 60696
A	Supply + bus, black box	490	4822 321 60698
13	Extension, bus	491	4822 321 60796
14	Extension, supply	492	4822 321 60697
P	Supply + bus, cass. player	493	4822 321 60699
15	Main supply (incl. fuse holder)	494	4822 321 23628
4	Fuse holder	495	4822 256 30447
	Fuse 15A	1401	4822 252 51113



3b

CASS.–PLAYER

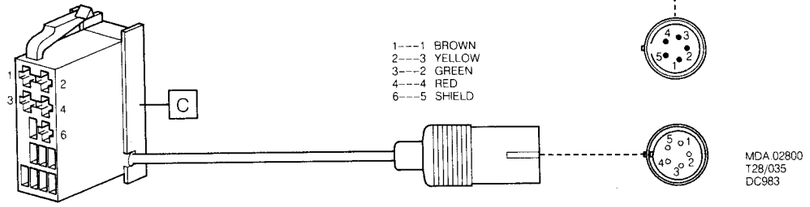




Q–C

5---6 GROUND
7---1 RIGHT+
8---3 RIGHT–
9---2 LEFT+
10---4 LEFT–

BLACK BOX



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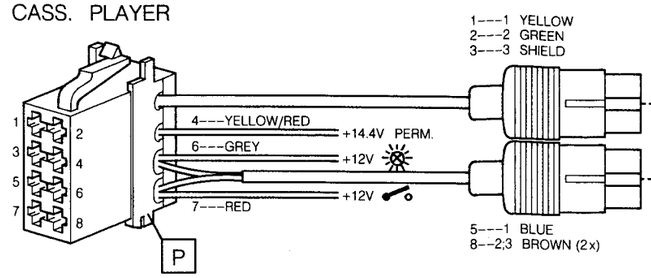
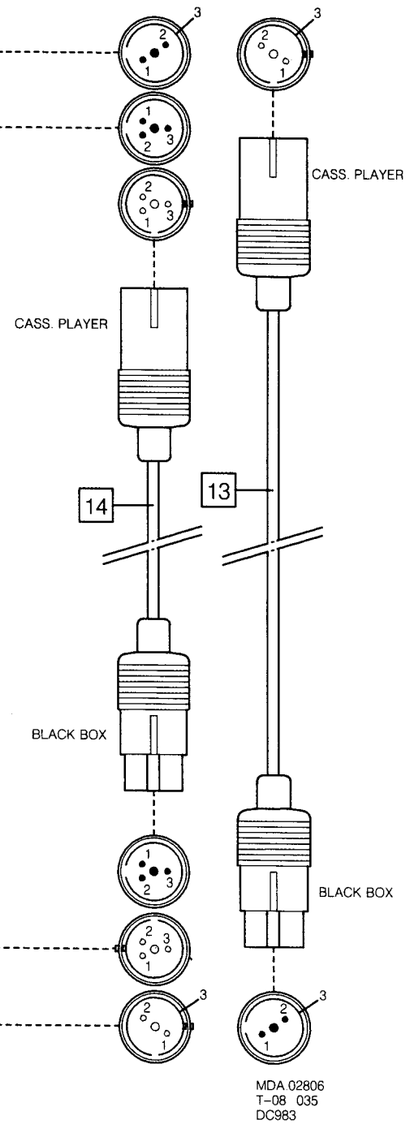
4	Fuse holder	495	4822 256 30447
	Fuse 15A	1401	4822 252 51113

3c

CASS. PLAYER



P–A
1–1 CONTROL BUS +
2–2 CONTROL BUS –
3–3 DIGITAL GROUND
4+7 PERM. SUPPLY
5–5 AUTOM. AERIAL
6– EXT. ILLUMINATION
7– SWITCHED SUPPLY
8–8 GROUND



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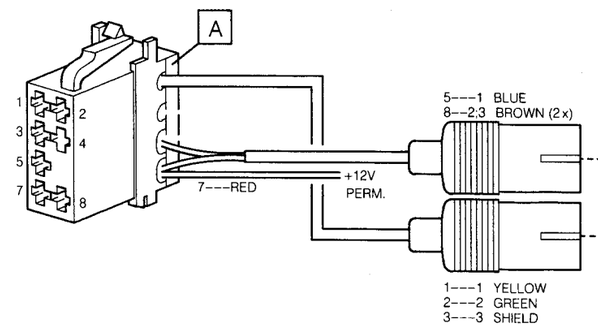

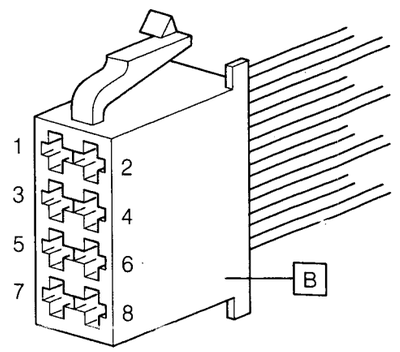

1 = +R.R. BLUE
2 = –R.R. BLUE/BLACK
3 = +F.R. GREY
4 = –F.R. GREY/BLACK
5 = +F.L. GREEN
6 = –F.L. GREEN/BLACK
7 = +R.L. BROWN
8 = –R.L. BROWN/BLACK

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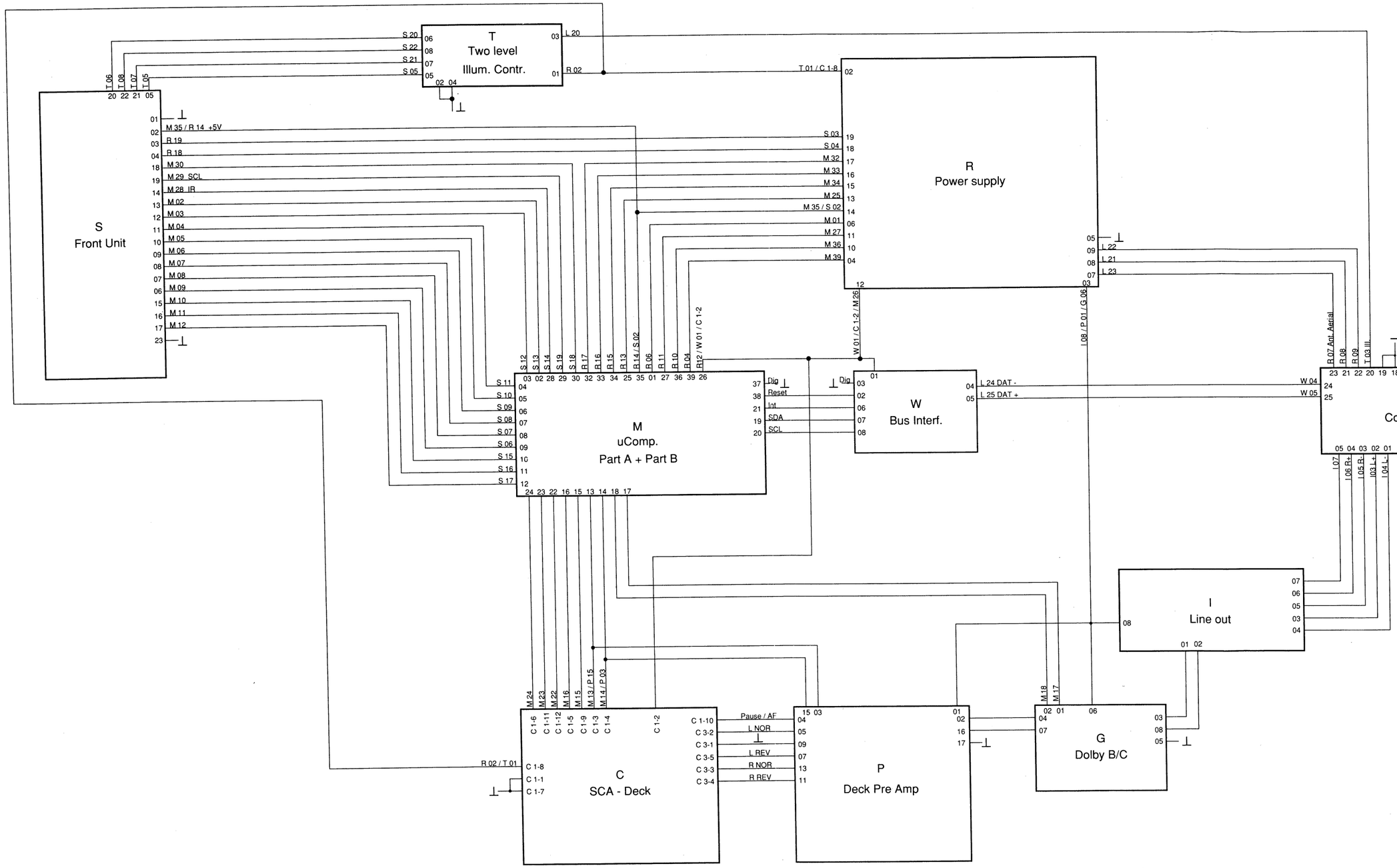
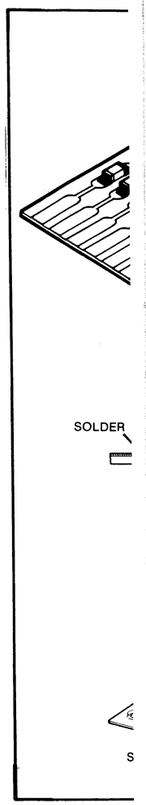
DC983



HANDLING



GB WARN

All ICs and n
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Careless har
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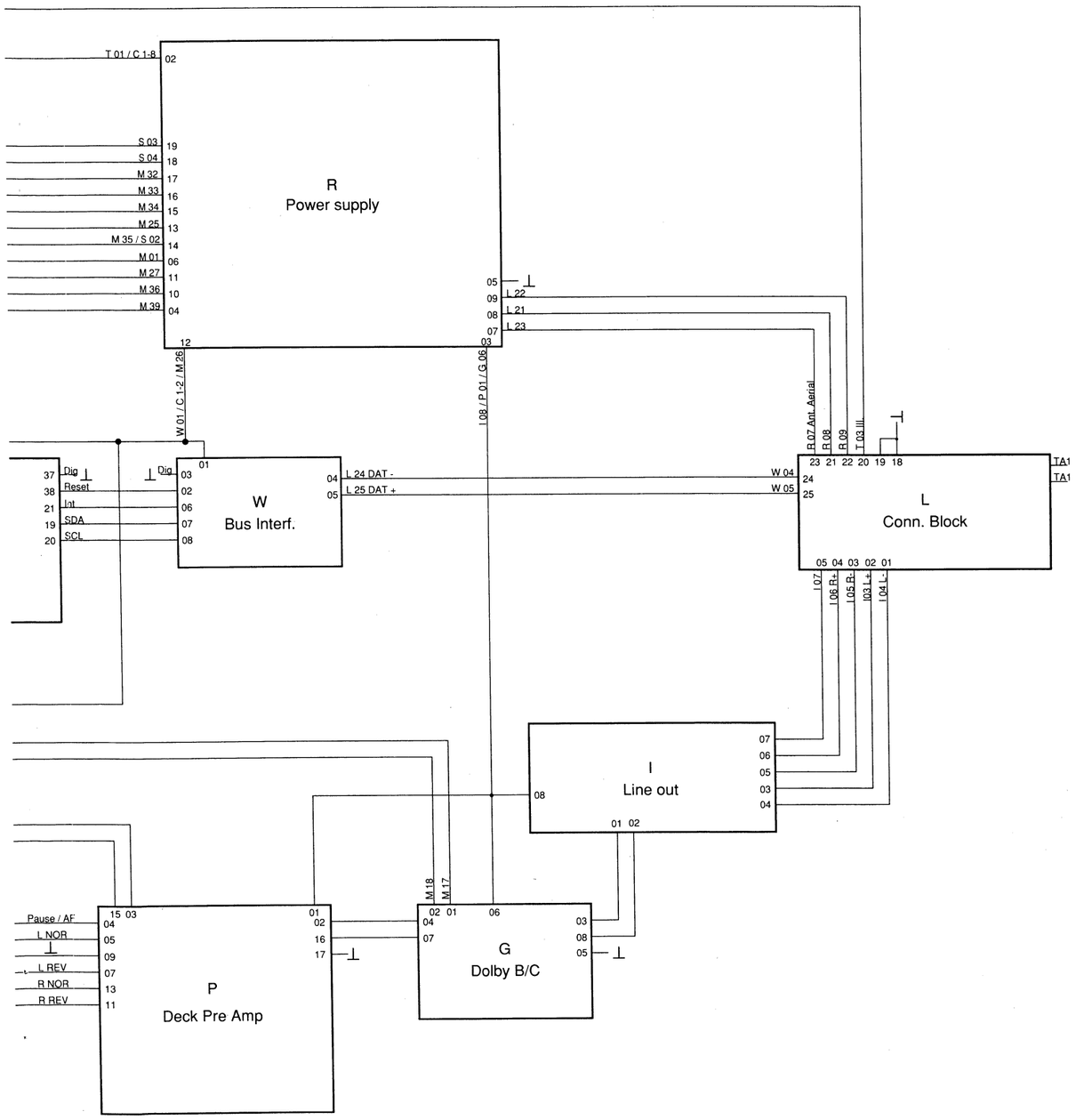
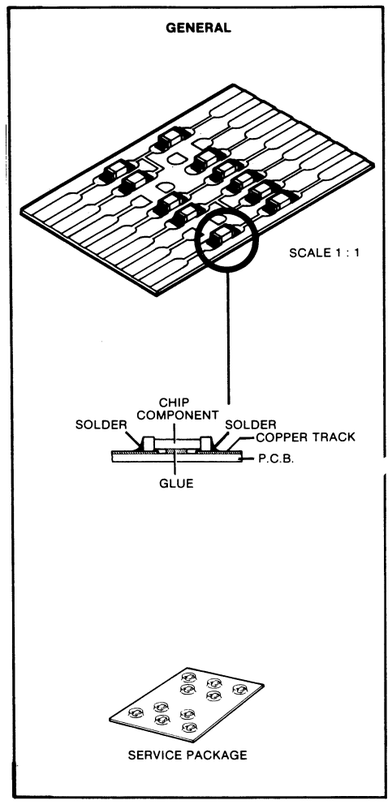
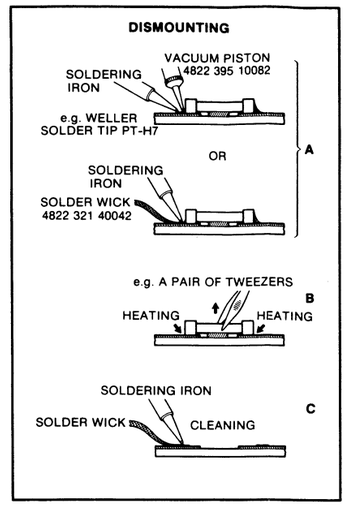
NL WAAR

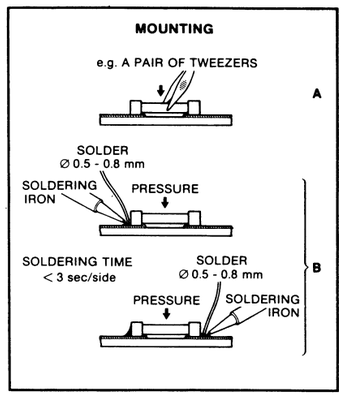
Alle IC's en
electrostatis
Onzorgvuldig
levensduur c
Zorg ervoor
met weersta
potentiaal al
Houd compo
potentiaal.

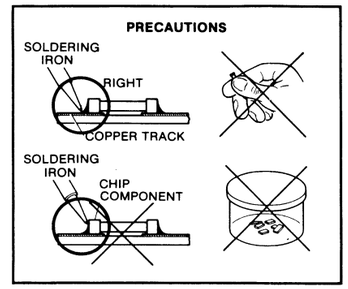


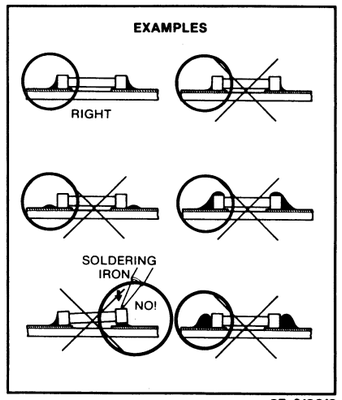
HANDLING CHIP COMPONENTS











27 012C12

ESD

GB WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce service life drastically. When repairing, make sure that you are connected to the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

NL WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

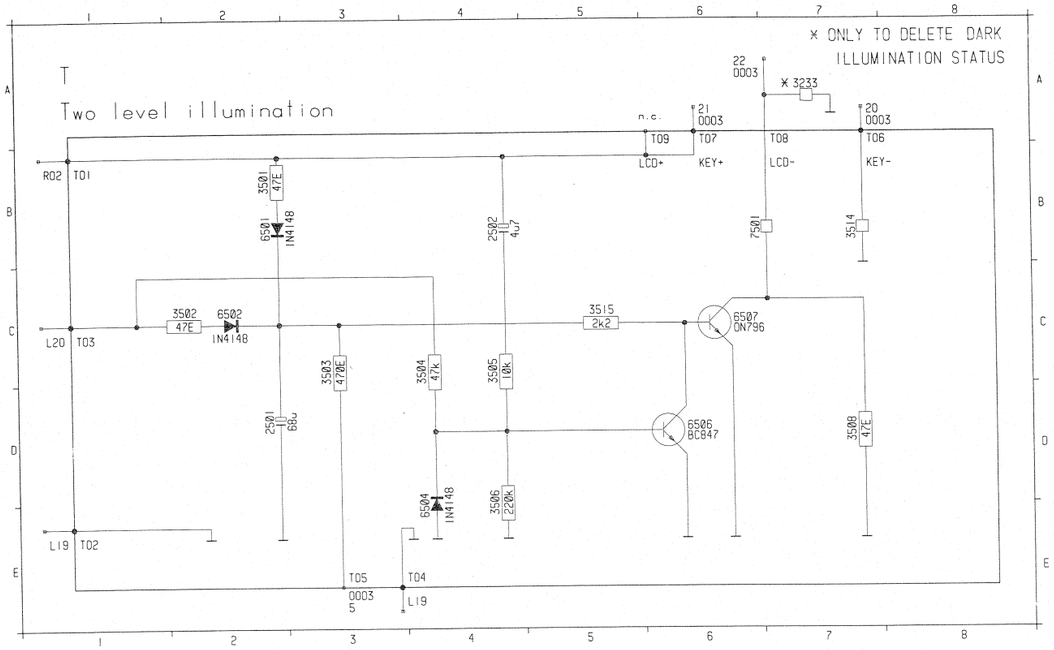
5a

2501 D 2 3233 A 7 3502 C 2 3504 C 4 3506 D 4 3514 B 7 6501 B 2 6504 E 4 6507 C 6
2502 B 4 3501 B 2 3503 C 3 3505 C 4 3508 D 7 3515 C 5 6502 C 2 6506 D 6 7501 B 6

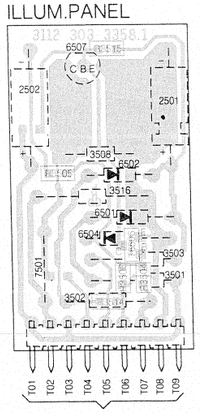
T

Two level illumination

× ONLY TO DELETE DARK ILLUMINATION STATUS



ILLUM.PANEL



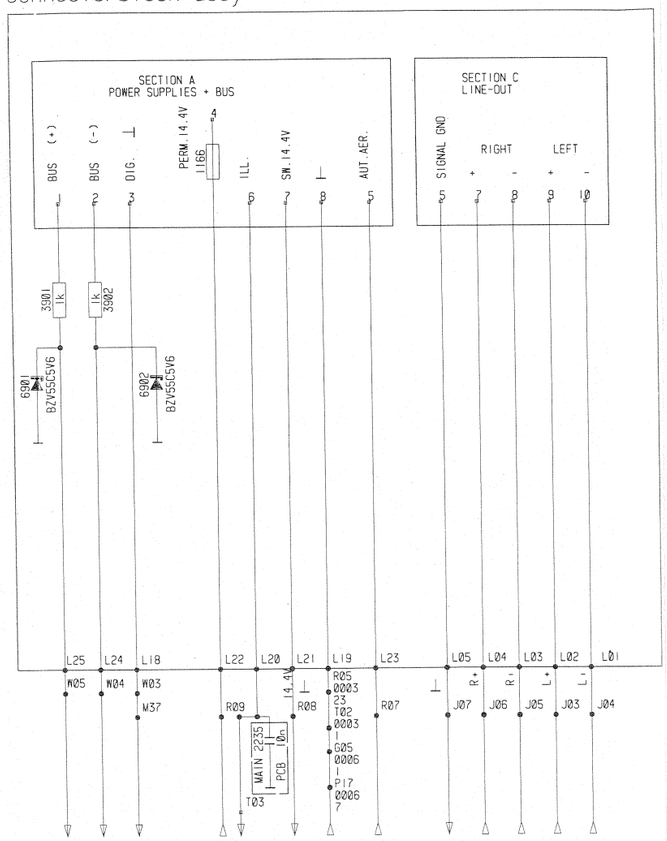
TO MAIN PANEL C101.....C109

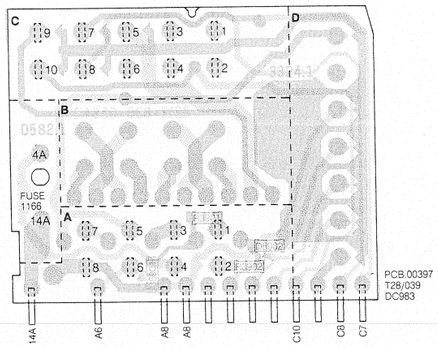
PCB.00405 T12/937 DC983

5b

L

Connectorblock assy

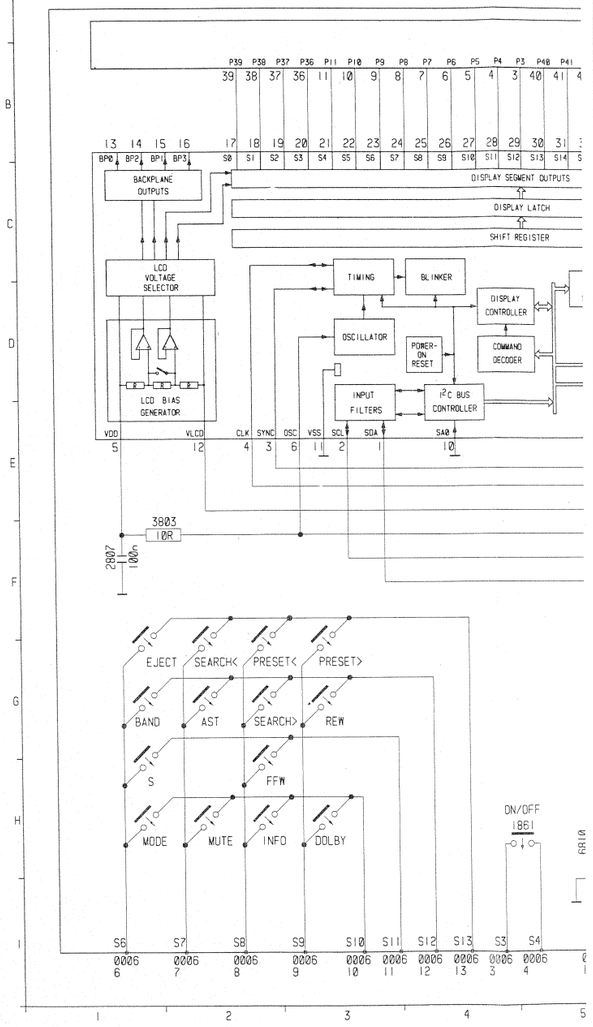




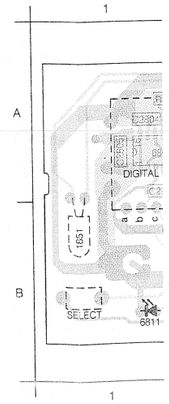
1850 H 7 1852 H 6 1854 G 6 1859 B 7 1861 H 5 2801 G 9 2803 I10 2805
1851 G 6 1853 H 6 1855 F 6 1860 G12 2800 H 9 2802 H12 2804 F11 2806

S

PCB Front

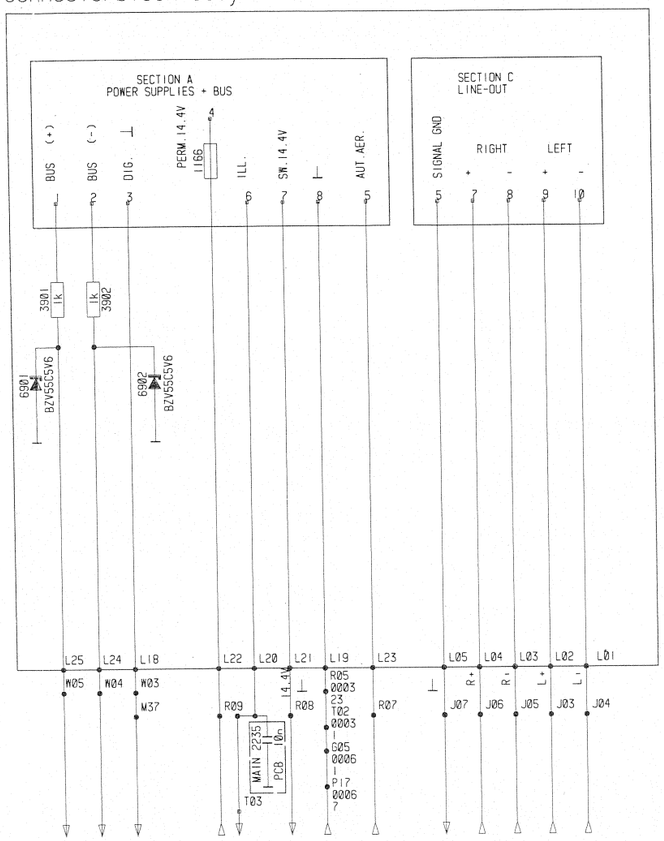


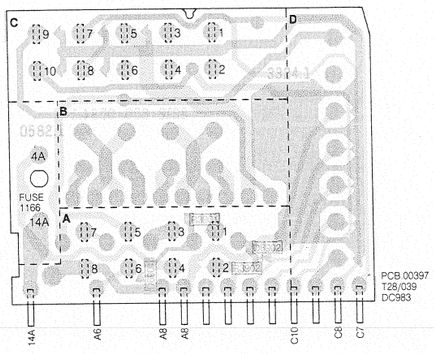
1850 A6 1853
1851 B1 1854
1852 B3 1855



L

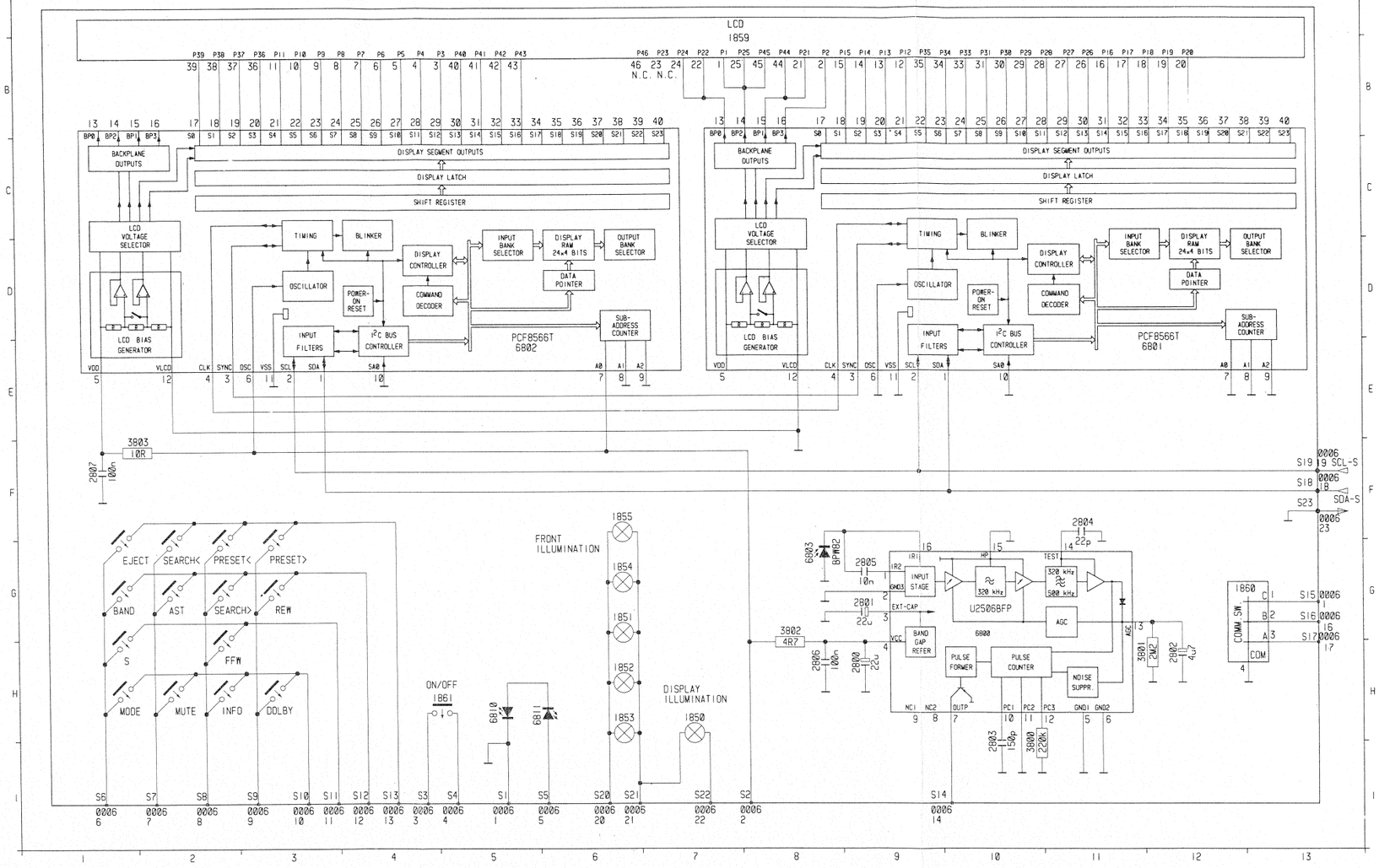
Connectorblock assy





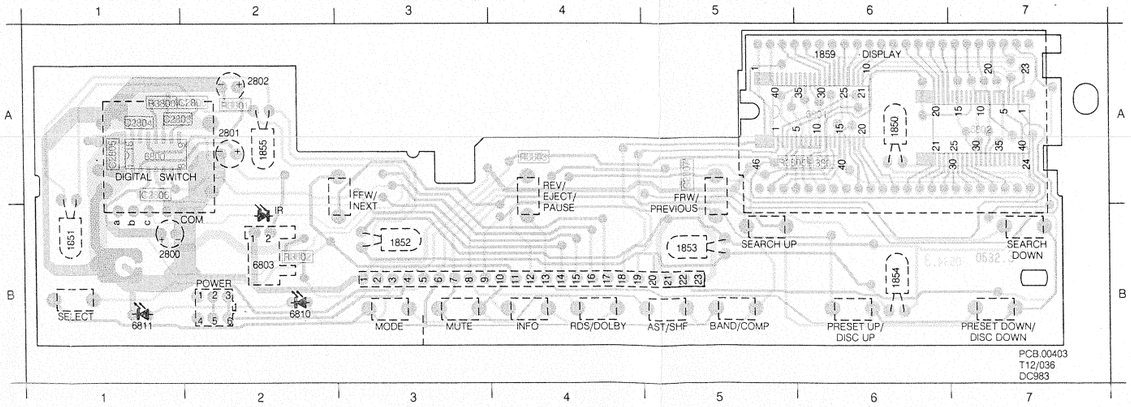
S

PCB Front

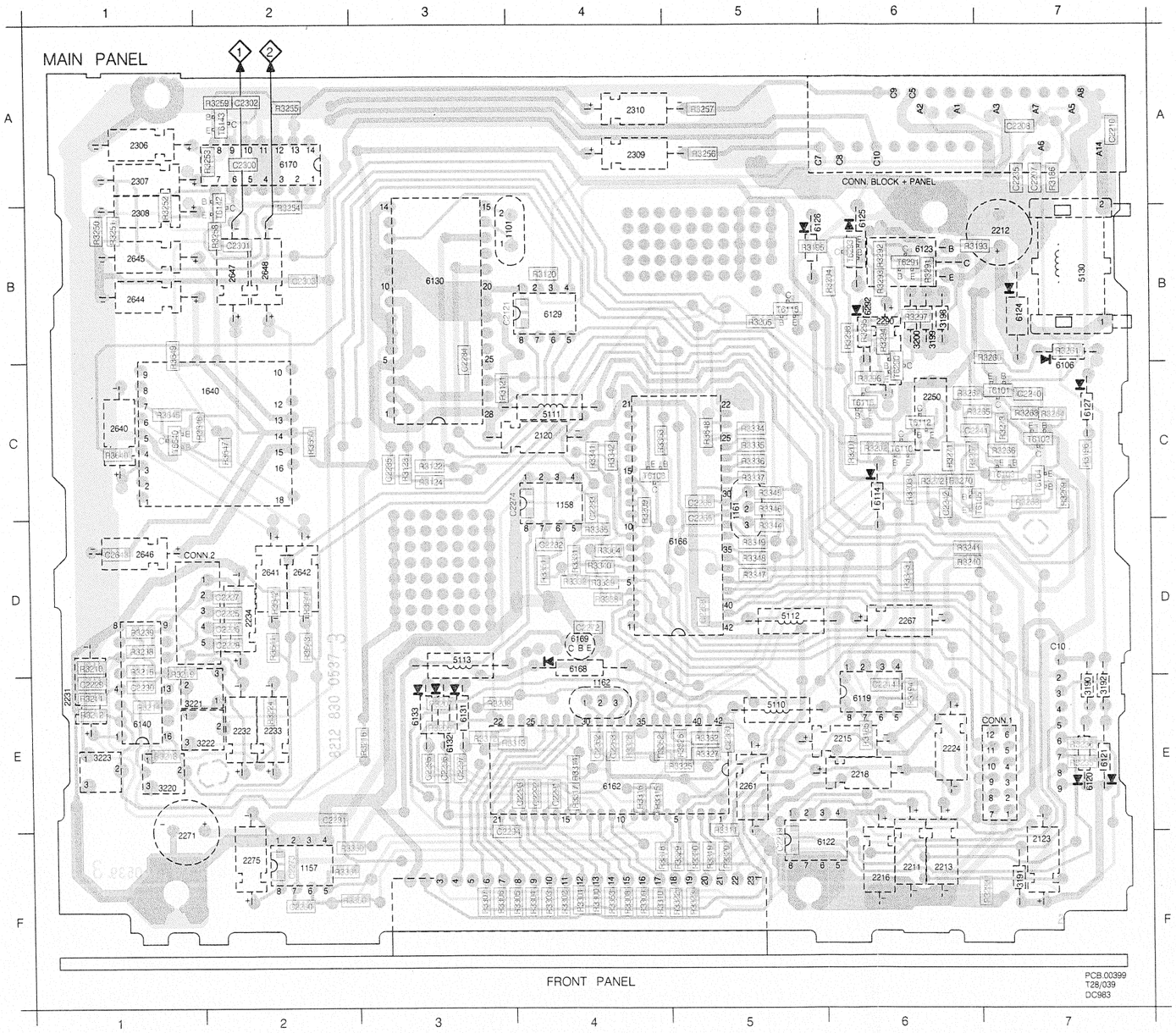


1850 H 7 1851 G 6 | 1852 H 6 1853 H 6 | 1854 G 6 1855 F 6 | 1859 B 7 1860 G12 | 1861 H 5 2800 H 9 | 2801 G 9 2802 H12 | 2803 I10 2804 F11 | 2805 G 9 2806 H 8 | 2807 F I 3800 I10 | 3801 H11 3802 G 8 | 3803 F 2 6800 G10 | 6801 E11 6802 E 5 | 6803 G 8 6810 H 5 | 6811 H 5

1850 A6 1851 B1 1852 B3 | 1853 B5 1854 B6 1855 A2 | 1859 A6 2800 B1 2801 A2 | 2802 A2 6800 A1 6801 A6 | 6802 A7 6803 B2 6810 B2 | 6811 B1 C2803 A1 C2804 A1 | C2805 A1 C2806 A1 C2807 A5 | C2808 A2 R3800 A1 R3801 A2 | R3802 B2 R3803 A4 R3804 A6 | R3805 A5



6a



6b

1101	B4	C2235	A7	R3271	C6	T6116	C6
1157	F2	C2240	C7	R3272	C6	T6142	B2
1158	C4	C2241	C6	R3273	C7	T6143	A2
1161	C5	C2242	C6	R3291	B6	T6290	C6
1162	E4	C2260	E5	R3292	B6	T6291	B6
1640	C2	C2262	E4	R3293	B6	T6293	B6
2120	C4	C2263	E4	R3294	B6	T6640	C1
2123	F7	C2265	D5	R3295	B6		
2211	F6	C2266	C5	R3296	C6		
2212	B7	C2268	D5	R3297	B6		
2213	F6	C2272	D4	R3298	B6		
2215	E6	C2273	F2	R3300	F4		
2216	F6	C2274	C4	R3301	F4		
2218	E6	C2280	F2	R3302	F4		
2224	E6	C2281	E2	R3303	F4		
2231	E1	C2282	D4	R3304	F4		
2232	E2	C2283	C4	R3305	F4		
2233	E2	C2284	B3	R3306	F3		
2234	D2	C2285	C3	R3307	F3		
2250	C6	C2291	E4	R3308	F4		
2261	E5	C2292	E4	R3309	F4		
2267	D6	C2293	E4	R3310	F4		
2271	F1	C2294	F3	R3311	F5		
2275	F2	C2295	E3	R3312	E3		
2290	B6	C2296	E3	R3313	E3		
2306	A1	C2297	E3	R3314	E4		
2307	A1	C2300	A2	R3315	E4		
2308	B1	C2301	B2	R3316	E4		
2309	A4	C2302	A2	R3317	E4		
2310	A4	C2303	B2	R3318	F4		
2640	C1	C2643	D1	R3319	F5		
2641	D2	R3120	B4	R3320	F5		
2642	D2	R3121	C3	R3322	F5		
2644	B1	R3122	C3	R3323	F5		
2645	B1	R3123	C3	R3325	E5		
2646	D1	R3124	C3	R3326	E5		
2647	B2	R3185	E6	R3327	E5		
2648	B2	R3186	A7	R3328	E4		
3190	E7	R3193	B7	R3329	F5		
3191	F7	R3194	E6	R3330	F5		
3192	E7	R3195	B5	R3331	D4		
3198	B6	R3196	C7	R3332	D4		
3199	B6	R3201	C6	R3334	C5		
3200	B6	R3202	C6	R3335	C5		
3220	E1	R3203	C6	R3336	C5		
3221	E1	R3204	B6	R3337	C5		
3222	E2	R3205	B5	R3338	D4		
3223	E1	R3206	E3	R3339	D4		
5110	E5	R3207	E3	R3340	D4		
5111	C4	R3208	E3	R3341	C4		
5112	D5	R3209	C4	R3342	C4		
5113	D3	R3210	D1	R3343	D6		
5130	B7	R3211	E1	R3344	D5		
6106	C7	R3212	E1	R3345	C5		
6114	C6	R3213	E1	R3346	C5		
6119	E6	R3214	E1	R3347	D5		
6120	E7	R3215	D1	R3348	D5		
6121	E7	R3216	E3	R3349	D5		
6122	F5	R3219	D1	R3350	F2		
6123	B6	R3224	E2	R3351	D4		
6124	B7	R3233	F7	R3352	E4		
6125	B6	R3235	E7	R3353	F4		
6126	B6	R3236	E7	R3360	F2		
6127	C7	R3238	D1	R3361	F2		
6129	B4	R3239	D1	R3362	E5		
6130	B3	R3240	D6	R3363	C4		
6131	E3	R3241	D6	R3364	D4		
6132	E3	R3250	B1	R3365	D4		
6133	E3	R3251	B1	R3640	C1		
6140	E1	R3252	B1	R3641	D2		
6162	E4	R3253	A2	R3642	D2		
6166	D5	R3254	B2	R3643	D2		
6168	D4	R3255	A2	R3644	D2		
6169	D4	R3256	A5	R3645	C1		
6170	A2	R3257	A5	R3646	C2		
6292	B6	R3258	B2	R3647	C2		
C2121	B4	R3259	A2	R3648	C5		
C2207	A7	R3260	B7	R3649	B1		
C2208	A7	R3261	B7	R3650	C2		
C2210	A7	R3262	C6	T6101	C7		
C2214	E6	R3263	C7	T6102	C7		
C2219	F5	R3264	C7	T6103	C7		
C2225	D2	R3265	C7	T6104	C7		
C2226	D2	R3266	C7	T6105	C7		
C2227	D2	R3267	C6	T6108	C4		
C2228	D2	R3268	C7	T6110	C6		
C2229	E1	R3269	C7	T6112	C6		
C2230	E1	R3270	C6	T6115	B5		

1157 X2404 F

1	GND
2	GND
3	GND
4	GND
5	4,8 V SD
6	4,8 V SC
7	GND
8	5,0 V

1640 NR955C

1	n.c.
2	n.c.
3	0 V Tune
	0 V Cass
	4,2 V Dol
	8,4 V Dol
4	4,2 V
5	GND
6	4,1 V
7	0V Tuner
	8,3 V Ca
8	n.c.
9	n.c.
10	4,1 V
11	n.c.
12	n.c.
13	4,1 V
14	8,4 V
15	4,1 V
16	n.c.
17	n.c.
18	4,1 V

6101 BC847

B	0,6 V
E	GND
C	12 mV

6102 BC857

B	4,4 V
E	5,0 V
C	5,0 V

6103 BC875

B	5,0 V
E	5,0 V
C	0 V

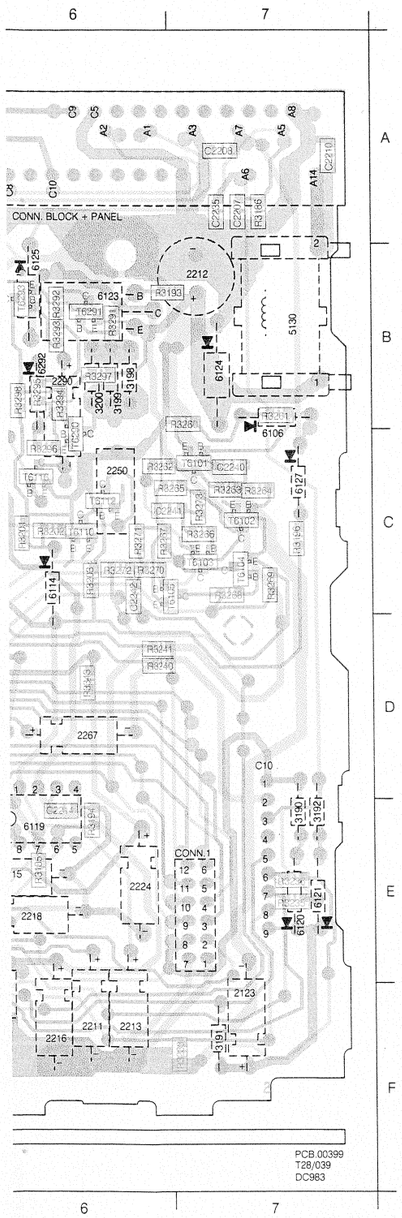
6104 BC857

B	5,0 V
E	5,0 V
C	0 V

6105 BC847

B	0 V
E	0 V
C	5,0 V

6b



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1157	F2	C2240	C7	R3272	C6	T6142	B2
1158	C4	C2241	C6	R3273	C7	T6143	A2
1161	C5	C2242	C6	R3291	B6	T6290	C6
1162	E4	C2260	E5	R3292	B6	T6291	B6
1640	C2	C2262	E4	R3293	B6	T6293	B6
2120	C4	C2263	E4	R3294	B6	T6640	C1
2123	F7	C2265	D5	R3295	B6		
2211	F6	C2266	C5	R3296	C6		
2212	B7	C2268	D5	R3297	B6		
2213	F6	C2272	D4	R3298	B6		
2215	E6	C2273	F2	R3300	F4		
2216	F6	C2274	C4	R3301	F4		
2218	E6	C2280	F2	R3302	F4		
2224	E6	C2281	E2	R3303	F4		
2231	E1	C2282	D4	R3304	F4		
2232	E2	C2283	C4	R3305	F4		
2233	E2	C2284	B3	R3306	F3		
2234	D2	C2285	C3	R3307	F3		
2250	C6	C2291	E4	R3308	F4		
2261	E5	C2292	E4	R3309	F4		
2267	D6	C2293	E4	R3310	F4		
2271	F1	C2294	F3	R3311	F5		
2275	F2	C2295	E3	R3312	E3		
2290	B6	C2296	E3	R3313	E3		
2306	A1	C2297	E3	R3314	E4		
2307	A1	C2300	A2	R3315	E4		
2308	B1	C2301	B2	R3316	E4		
2309	A4	C2302	A2	R3317	E4		
2310	A4	C2303	B2	R3318	F4		
2640	C1	C2643	D1	R3319	F5		
2641	D2	R3120	B4	R3320	F5		
2642	D2	R3121	C3	R3322	F5		
2644	B1	R3122	C3	R3323	F5		
2645	B1	R3123	C3	R3325	E5		
2646	D1	R3124	C3	R3326	E5		
2647	B2	R3185	E6	R3327	E5		
2648	B2	R3186	A7	R3328	E4		
3190	E7	R3193	B7	R3329	F5		
3191	F7	R3194	E6	R3330	F5		
3192	E7	R3195	B5	R3331	D4		
3198	B6	R3196	C7	R3332	D4		
3199	B6	R3201	C6	R3334	C5		
3200	B6	R3202	C6	R3335	C5		
3220	E1	R3203	C6	R3336	C5		
3221	E1	R3204	B6	R3337	C5		
3222	E2	R3205	B5	R3338	D4		
3223	E1	R3206	E3	R3339	D4		
5110	E5	R3207	E3	R3340	D4		
5111	C4	R3208	E3	R3341	C4		
5112	D5	R3209	C4	R3342	C4		
5113	D3	R3210	D1	R3343	D6		
5130	B7	R3211	E1	R3344	D5		
6106	C7	R3212	E1	R3345	C5		
6114	C6	R3213	E1	R3346	C5		
6119	E6	R3214	E1	R3347	D5		
6120	E7	R3215	D1	R3348	D5		
6121	E7	R3216	E3	R3349	D5		
6122	F5	R3219	D1	R3350	F2		
6123	B6	R3224	E2	R3351	D4		
6124	B7	R3233	F7	R3352	E4		
6125	B6	R3235	E7	R3353	F4		
6126	B6	R3236	E7	R3360	F2		
6127	C7	R3238	D1	R3361	F2		
6129	B4	R3239	D1	R3362	E5		
6130	B3	R3240	D6	R3363	C4		
6131	E3	R3241	D6	R3364	D4		
6132	E3	R3250	B1	R3365	D4		
6133	E3	R3251	B1	R3640	C1		
6140	E1	R3252	B1	R3641	D2		
6162	E4	R3253	A2	R3642	D2		
6166	D5	R3254	B2	R3643	D2		
6168	D4	R3255	A2	R3644	D2		
6169	D4	R3256	A5	R3645	C1		
6170	A2	R3257	A5	R3646	C2		
6292	B6	R3258	B2	R3647	C2		
C2121	B4	R3259	A2	R3648	C5		
C2207	A7	R3260	B7	R3649	B1		
C2208	A7	R3261	B7	R3650	C2		
C2210	A7	R3262	C6	T6101	C7		
C2214	E6	R3263	C7	T6102	C7		
C2219	F5	R3264	C7	T6103	C7		
C2225	D2	R3265	C7	T6104	C7		
C2226	D2	R3266	C7	T6105	C7		
C2227	D2	R3267	C6	T6108	C4		
C2228	D2	R3268	C7	T6110	C6		
C2229	E1	R3269	C7	T6112	C6		
C2230	E1	R3270	C6	T6115	B5		

6c

1157 X2404 PI

1	GND
2	GND
3	GND
4	GND
5	4,8 V SDA
6	4,8 V SCL
7	GND
8	5,0 V

1640 NR9550

1	n.c.
2	n.c.
3	0 V Tuner 0 V Cass. 4,2 V Dolby B 8,4 V Dolby C
4	4,2 V
5	GND
6	4,1 V
7	0V Tuner 8,3 V Cass
8	n.c.
9	n.c.
10	4,1 V
11	n.c.
12	n.c.
13	4,1 V
14	8,4 V
15	4,1 V
16	n.c.
17	n.c.
18	4,1 V

6101 BC847

B	0,6 V
E	GND
C	12 mV

6102 BC857

B	4,4 V
E	5,0 V
C	5,0 V

6103 BC875

B	5,0 V
E	5,0 V
C	0 V

6104 BC857

B	5,0 V
E	5,0 V
C	0 V

6105 BC847

B	0 V
E	0 V
C	5,0 V

6108 BC847

B	18 mV
E	0 V
C	5,0 V

6110 BC847

B	0,6 V
E	0 V
C	17 mV

6112 BC847

B	17 mV
E	0 V
C	5,0 V

6115 BC847

B	10 mV
E	0 V
C	0,6 V

6116 BC847

B	0,6 V
E	0 V
C	50 mV

6119 L4904

1	13,0 V
2	8,5 V
3	5,6 V
4	GND
5	n.c.
6	4,2 V
7	5,0 V
8	5,0 V

6122 L4916

1	14,2 V
2	2,5 V
3	n.c.
4	8,6 V
5 - 8	GND

6123 BD438

B	13,5 V
E	14,4 V
C	14,4 V

6129 SAA1045

1	GND
2	2,5 V
3	2,5 V
4	5,0 V
5	19 mV
6	5,0 V
7	5,0 V
8	5,0 V

6130 PCF84C21P

1	5,0 V
2	5,0 V
3	5,0 V
4	5,0 V
5	GND
6	GND
7	GND
8	5,0 V
9	GND
10	GND
11	GND
12	5,0 V
13	n.c.
14	GND
15	8 MHz
16	8 MHz
17	19 mV
18	5,0 V
19	5,0 V
20	GND
21	GND
22	GND
23 - 28	5,0 V

6140 TA7784

1	8,0 V
2	2,8 V
3	0 V NOR 5,0 V REV
4	2,8 V
5	2,2 V
6	2,2 V
7	2,2 V
8	GND
9	2,2 V
10	n.c.
11	2,2 V
12	2,2 V
13	2,2 V
14	2,8 V
15	5,0 V Tuner 5,0 V Cr II 0 V Fe I
16	2,8 V

6169 MC78L05

B	GND
E	13,5 V
C	5,0 V

6170 LM1677

1	4,2 V
2	4,2 V
3	GND
4	GND
5	GND
6	4,2 V
7	4,2 V
8	4,2 V
9	4,2 V
10	GND
11	GND
12	GND
13	4,2 V
14	8,5 V

6290 BC847

B	0,8 V
E	GND
C	0,3 V

6291 BC857

B	GND
E	14,5 V
C	10,0 V

6507 ON796

B	0,7V off 0 V on
E	O V
C	0 V off 2,2 V on

6293 BC857

B	14,4
E	14,4 V
C	14,4 V

6640 BC847

B	180 mV Cass. 680 mV Tuner
E	GND
C	8,5 V Cass. 33 mV Tuner

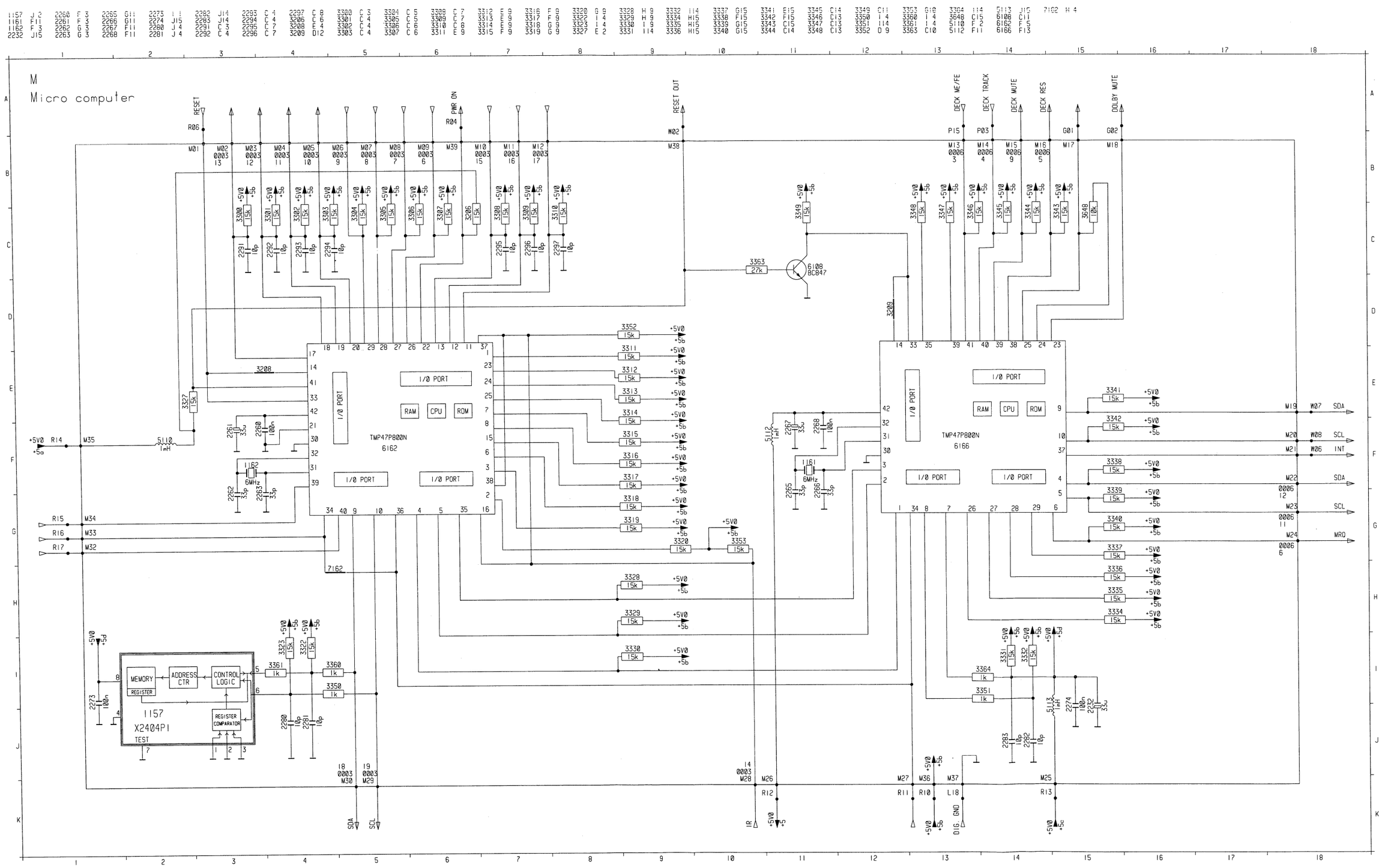
6162 TMP47P800N

1 - 8	5,0 V
9	5,0 V SDA
10	5,0 V SCL
11	5,0 V
12	5,0 V
13	5,0 V
14	5,0 V Reset
15	5,0 V
16	5,0 V
17 - 20	10 mV
21	GND
22	10 mV
23	5,0 V
24	2,5 V
25 - 29	5,0 V
30	GND
31	2,2 V
32	2,4 V
33	5,0 V
34	0 V
35	5,0 V
36	4,2 V
37	5,0 V
38	5,0 V
39	12 mV
40	5,0 V
41	19 mV
42	5,0 V

6166 TMP47P800N

1 - 10	5,0 V
11 - 20	n.c.
21	GND
22	n.c.
23	0,7 V Tuner 0,7 V Cass. wind 0 V Cass. play
24	0 V 10 mV Dolby B 8,4 V Dolby C
25	0 V 4,2 V Dolby B 8,4 V Dolby C
26 - 29	5,0 V
30	GND
31	2,2 MHz
32	2,4 MHz
33	5,0 V
34	4,2 V
35 - 39	5,0 V
40	5,0 V REV 0 V NOR
41	5,0 V Tuner 5,0 V Cr II 0 V Fe I
42	5,0 V

7a 7b



1157 X2404 PI

1 GND
2 GND
3 GND
4 GND
5 4,8 V SDA
6 4,8 V SCL
7 GND
8 5,0 V

6108 BC847

B 18 mV
E 0 V
C 5,0 V

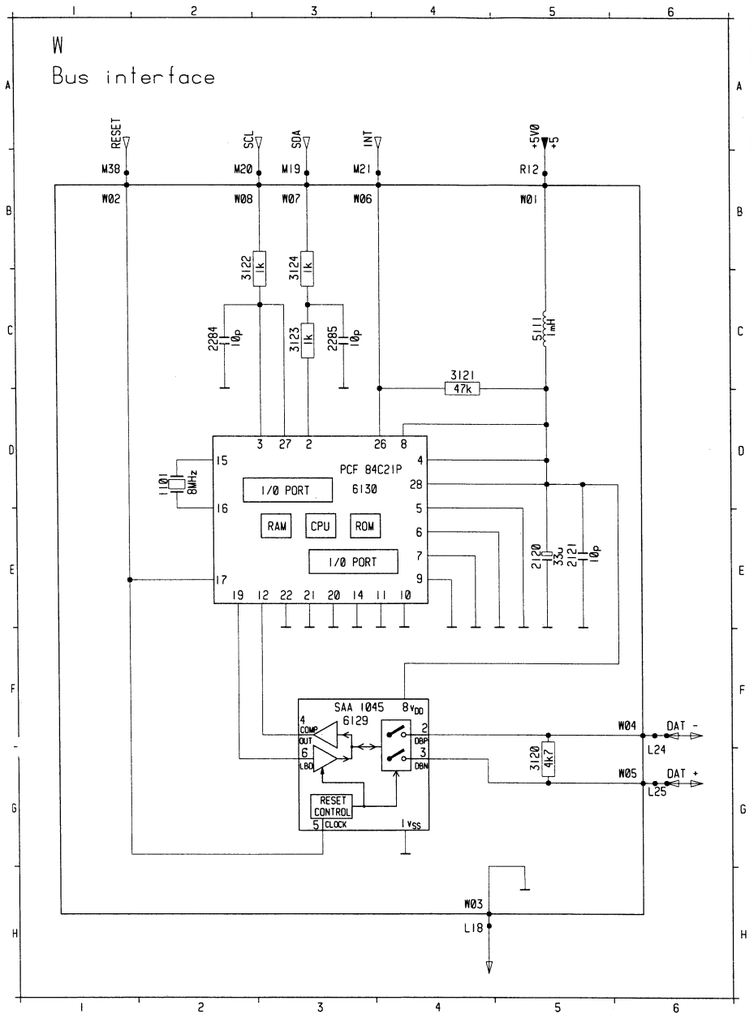
6162 TMP47P800N

1 - 8 5,0 V
9 5,0 V SDA
10 5,0 V SCL
11 5,0 V
12 5,0 V
13 5,0 V
14 5,0 V Reset
15 5,0 V
16 5,0 V
17 - 20 10 mV
21 GND
22 10 mV
23 5,0 V
24 2,5 V
25 - 29 5,0 V
30 GND
31 2,2 V
32 2,4 V
33 5,0 V
34 0 V
35 5,0 V
36 4,2 V
37 5,0 V
38 5,0 V
39 12 mV
40 5,0 V
41 19 mV
42 5,0 V

6166 TMP47P800N

1 - 10 5,0 V
11 - 20 n.c.
21 GND
22 n.c.
23 0,7 V Tuner
0,7 V Cass. wind
0 V Cass. play
24 0 V
10 mV Dolby B
8,4 V Dolby C
25 0 V
4,2 V Dolby B
8,4 V Dolby C
26 - 29 5,0 V
30 GND
31 2,2 MHz
32 2,4 MHz
33 5,0 V
34 4,2 V
35 - 39 5,0 V
40 5,0 V REV
0 V NOR
41 5,0 V Tuner
5,0 V Cr II
0 V Fe I
42 5,0 V

8a



1101 D 2
2120 E 5
2121 E 5
2284 C 3
2285 C 3
3120 G 5
3121 C 4
3122 B 2
3123 C 3
3124 B 3
5111 C 5
6129 F 3
6130 D 3

6129 SAA1045

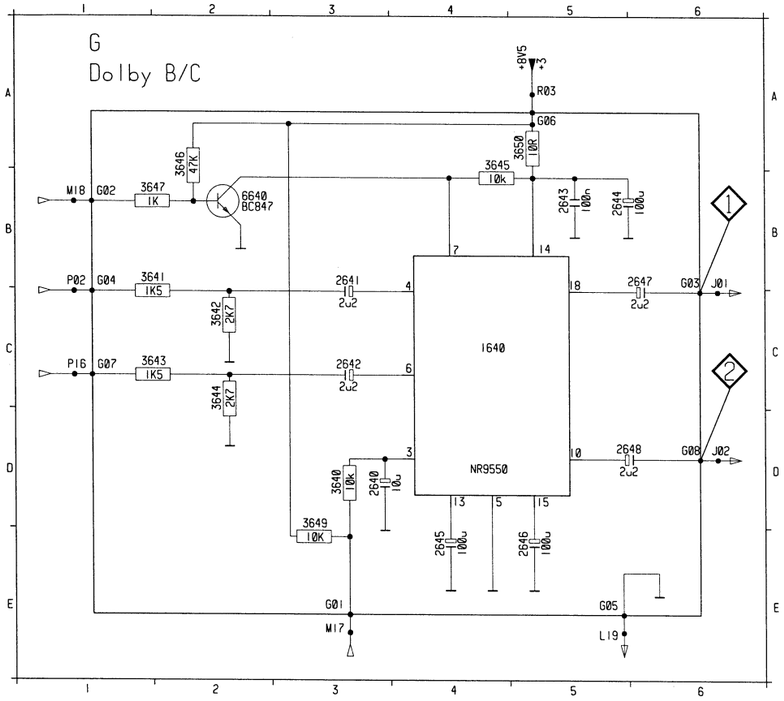
1	GND
2	2,5 V
3	2,5 V
4	5,0 V
5	19 mV
6	5,0 V
7	5,0 V
8	5,0 V

6130 PCF84C21P

1	5,0 V
2	5,0 V
3	5,0 V
4	5,0 V
5	GND
6	GND
7	GND
8	5,0 V
9	GND
10	GND
11	GND
12	5,0 V
13	n.c.
14	GND
15	8 MHz
16	8 MHz
17	19 mV
18	5,0 V
19	5,0 V
20	GND
21	GND
22	GND
23 - 28	5,0 V

8b

1640 C 4 2642 C 3 2645 E 4 2648 D 5 3642 C 2 3645 A 4 3649 D 3
2640 D 3 2643 B 5 2646 E 5 3640 D 3 3643 C 2 3646 A 2 3650 A 5
2641 B 3 2644 B 5 2647 B 6 3641 B 2 3644 C 2 3647 B 2 6640 B 2



1640 NR9550

1	n.c.
2	n.c.
3	0 V Tuner 0 V Cass. 4,2 V Dolby B 8,4 V Dolby C
4	4,2 V
5	GND
6	4,1 V
7	0V Tuner 8,3 V Cass
8	n.c.
9	n.c.
10	4,1 V
11	n.c.
12	n.c.
13	4,1 V
14	8,4 V
15	4,1 V
16	n.c.
17	n.c.
18	4,1 V

6640 BC847

B	180 mV Cass. 680 mV Tuner
E	GND
C	8,5 V Cass. 33 mV Tuner

Dolby - level alignment

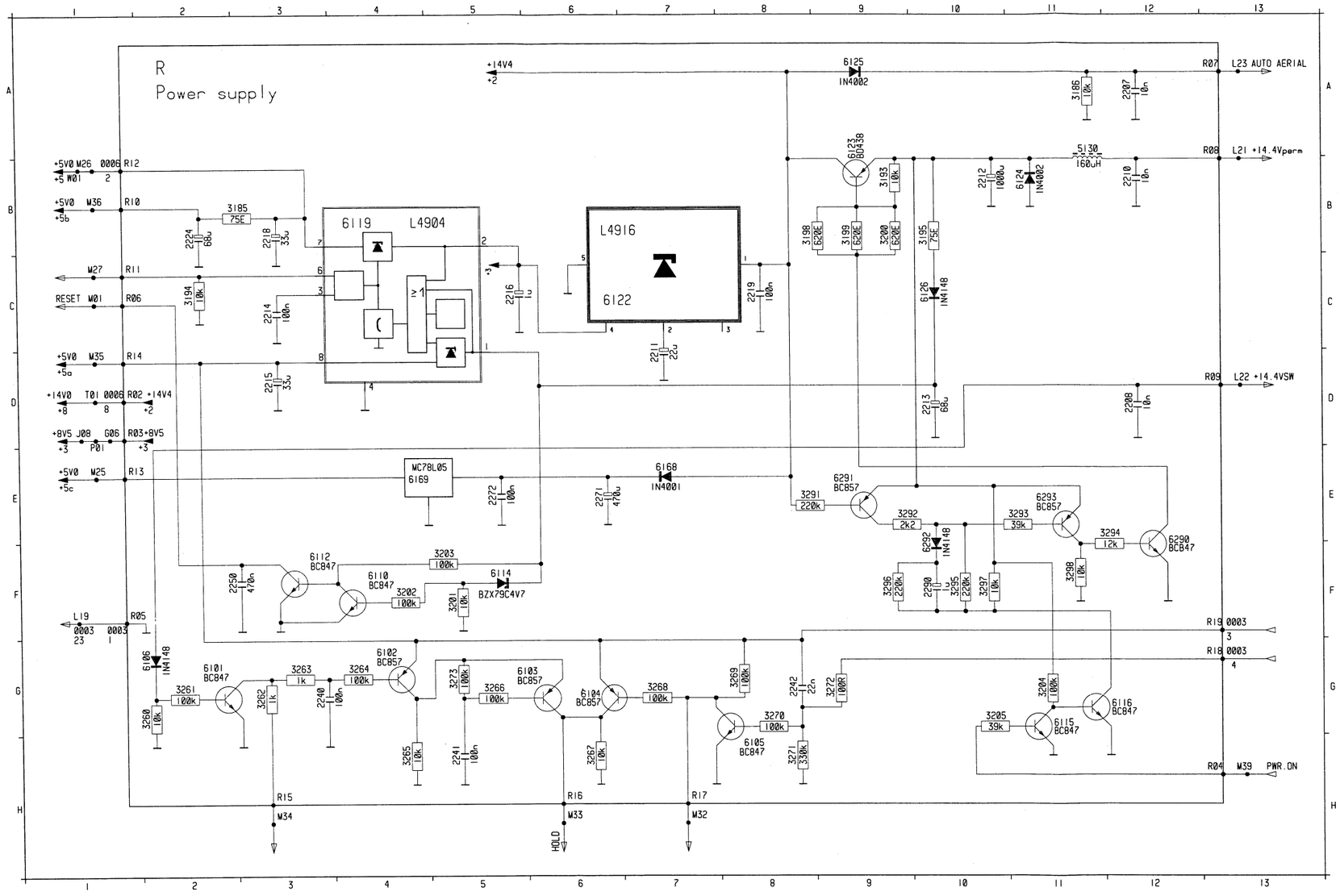
Cassette: Dolby - level 200 nW/m, 400Hz

Adjust Pot.meter 3221 for right cannel measuring between ◇1 and connectorblock C 8: 450 mV +/- 1 dB NOR and REV

Adjust Pot.meter 3222 for left cannel measuring between ◇2 and connectorblock C 10: 450 mV +/- 1 dB NOR and REV

9a 9b

2207 A12 2212 B10 2216 C5 2240 G3 2271 E6 3186 A11 3198 B8 3202 F4 3260 G2 3264 G4 3268 G7 3272 G9 3293 E11 3297 F10 6102 G4 6106 G2 6115 G11 6123 B9 6168 E7 6292 F10
2208 D12 2213 D10 2218 B3 2241 H5 2272 E5 3193 B9 3199 B9 3203 F5 3261 G2 3265 H4 3269 G8 3273 G5 3294 E12 3298 F11 6103 G5 6110 F4 6116 G12 6124 B11 6169 E4 6293 E11
2210 B12 2214 C3 2219 C8 2242 G8 2290 F10 3194 C2 3200 B9 3204 G11 3262 G3 3266 G5 3270 G8 3291 E8 3295 F10 5130 A11 6104 G6 6112 F3 6119 B4 6125 A9 6290 F12
2211 D7 2215 D3 2224 B2 2250 F2 3185 B3 3195 B10 3201 F5 3205 G10 3263 G3 3267 H6 3271 H8 3292 E9 3296 F9 6101 G2 6105 H8 6114 F5 6122 C6 6126 C10 6291 E9



6101 BC847

B 0,6 V
E GND
C 12 mV

6102 BC857

B 4,4 V
E 5,0 V
C 5,0 V

6103 BC875

B 5,0 V
E 5,0 V
C 0 V

6104 BC857

B 5,0 V
E 5,0 V
C 0 V

6105 BC847

B 0 V
E 0 V
C 5,0 V

6110 BC847

B 0,6 V
E 0 V
C 17 mV

6112 BC847

B 17 mV
E 0 V
C 5,0 V

6115 BC847

B 10 mV
E 0 V
C 0,6 V

6116 BC847

B 0,6 V
E 0 V
C 50 mV

6119 L4904

1 13,0 V
2 8,5 V
3 5,6 V
4 GND
5 n.c.
6 4,2 V
7 5,0 V
8 5,0 V

6122 L4916

1 14,2 V
2 2,5 V
3 n.c.
4 8,6 V
5 - 8 GND

6123 BD438

B 13,5 V
E 14,4 V
C 14,4 V

6169 MC78L05

B GND
E 13,5 V
C 5,0 V

6290 BCB47

B 0,8 V
E GND
C 0,3 V

6291 BC857

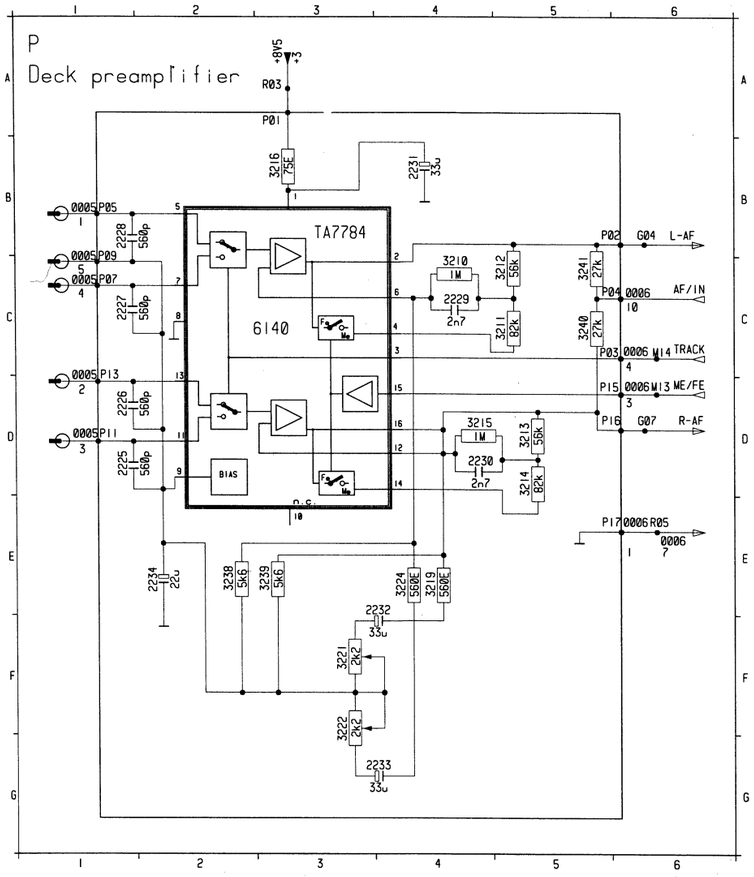
B GND
E 14,5 V
C 10,0 V

6293 BC857

B 14,4
E 14,4 V
C 14,4 V

10a

2225 D 1 2228 B 1 2231 B 4 2234 E 2 3212 C 5 3215 D 4 3221 F 3 3238 E 2 3241 C 5
2226 D 1 2229 C 4 2232 E 4 3210 C 4 3213 D 5 3216 B 3 3222 F 3 3239 E 3 6140 C 2
2227 C 1 2230 D 4 2233 G 4 3211 C 5 3214 D 5 3219 E 4 3224 E 4 3240 C 5

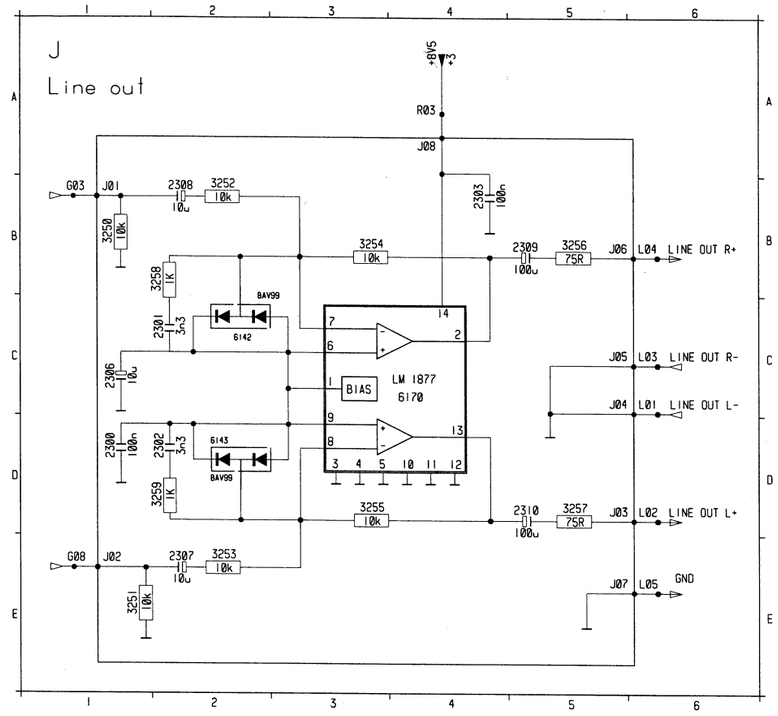


6140 TA7784

1	8,0 V
2	2,8 V
3	0 V NOR 5,0 V REV
4	2,8 V
5	2,2 V
6	2,2 V
7	2,2 V
8	GND
9	2,2 V
10	n.c.
11	2,2 V
12	2,2 V
13	2,2 V
14	2,8 V
15	5,0 V Tuner 5,0 V Cr II 0 V Fe I
16	2,8 V

10b

2300 D 1
2301 C 2
2302 D 2
2303 B 4
2306 C 1
2307 E 2
2308 B 2
2309 B 5
2310 D 5
3250 B 1
3251 E 1
3252 B 2
3253 E 2
3254 B 3
3255 D 3
3256 B 5
3257 D 5
3258 B 2
3259 D 2
6142 C 2
6143 D 2
6170 C 4



6170 LM1877

1	4,2 V
2	4,2 V
3	GND
4	GND
5	GND
6	4,2 V
7	4,2 V
8	4,2 V
9	4,2 V
10	GND
11	GND
12	GND
13	4,2 V
14	8,5 V

ELECTRICAL PARTS CASS. PLAYER

2120	4822 124 20688	33µF 50% 16V
2121	4822 122 33236	100nF
2123	5322 124 10512	68µF 20% 16V
2207	4822 122 32442	10nF 50V
2208	4822 122 32442	10nF 50V

2210	4822 122 32442	10nF 50V
2211	4822 124 20698	22µF 50% 25V
2212	4822 124 23308	220µF 20% 16V
2213	4822 124 20698	22µF 50% 25V
2214	4822 122 33236	100nF

11a

2215	4822 124 20688	33µF 50% 16V
2216	4822 124 20722	1µF 50% 63V
2218	4822 124 20688	33µF 50% 16V
2219	4822 122 33236	100nF
2224	5322 124 10512	68µF 20% 16V
2225	4822 122 33173	560pF 10% X7R 50V
2226	4822 122 33173	560pF 10% X7R 50V
2227	4822 122 33173	560pF 10% X7R 50V
2228	4822 122 33173	560pF 10% X7R 50V
2229	4822 122 33176	2.7nF 20% X7R 50V
2230	4822 122 33176	2.7nF 20% X7R 50V
2231	4822 124 20688	33µF 50% 16V
2232	4822 124 20688	33µF 50% 16V
2233	4822 124 20688	33µF 50% 16V
2234	4822 124 20698	22µF 50% 25V
2235	4822 122 32442	10nF 50V
2240	4822 122 33236	100nF
2241	4822 122 33236	100nF
2242	4822 122 33343	22nF 10% X7R 63V
2250	4822 121 43711	470nF 10% 100V
2260	4822 122 33236	100nF
2261	4822 124 20688	33µF 50% 16V
2262	4822 122 33215	33pF 5% NP0 50V
2263	4822 122 33215	33pF 5% NP0 50V
2265	4822 122 33215	33pF 5% NP0 50V
2266	4822 122 33215	33pF 5% NP0 50V
2267	4822 124 20688	33µF 50% 16V
2268	4822 122 33236	100nF
2271	4822 124 40198	470µF 20% 16V
2272	4822 122 33236	100nF
2273	4822 122 33236	100nF
2274	4822 122 33236	100nF
2280	4822 122 33212	10pF 5% NP0 50V
2281	4822 122 33212	10pF 5% NP0 50V
2282	4822 122 33212	10pF 5% NP0 50V
2283	4822 122 33212	10pF 5% NP0 50V
2284	4822 122 33212	10pF 5% NP0 50V
2285	4822 122 33212	10pF 5% NP0 50V
2290	4822 124 20722	1µF 50% 63V
2291	4822 122 33212	10pF 5% NP0 50V
2292	4822 122 33212	10pF 5% NP0 50V
2293	4822 122 33212	10pF 5% NP0 50V
2294	4822 122 33212	10pF 5% NP0 50V
2295	4822 122 33212	10pF 5% NP0 50V
2296	4822 122 33212	10pF 5% NP0 50V
2297	4822 122 33212	10pF 5% NP0 50V
2300	4822 122 33236	100nF
2301	4822 122 33585	3.3nF 10%
2302	4822 122 33585	3.3nF 10%
2303	4822 122 33236	100nF
2306	4822 124 20697	10µF 50% 25V
2307	4822 124 20697	10µF 50% 25V
2308	4822 124 20697	10µF 50% 25V
2309	5322 124 21762	100µF 20% 10V
2310	5322 124 21762	100µF 20% 10V
2640	4822 124 20697	10µF 50% 25V
2641	4822 124 20724	2.2µF 50% 63V
2642	4822 124 20724	2.2µF 50% 63V
2643	4822 122 33236	100nF
2644	5322 124 21762	100µF 20% 10V
2645	5322 124 21762	100µF 20% 10V
2646	5322 124 21762	100µF 20% 10V
2647	4822 124 20724	2.2µF 50% 63V
2648	4822 124 20724	2.2µF 50% 63V
2800	5322 124 41941	22µF 20% 16V
2801	5322 124 41941	22µF 20% 16V
2802	4822 124 23401	4.7µF 20% 25V

2803	4822 122 33283	150pF 5% NP0 50V
2804	4822 122 33213	22pF 5% NP0 50V
2805	4822 122 33177	10nF 20% X7R 50V
2806	4822 122 33236	100nF
2807	4822 122 33236	100nF
2808	4822 122 33215	33pF 5% NP0 50V

3120	4822 051 20472	4K7 5% 0,1W
3121	4822 051 20473	47K 5% 0,1W
3122	4822 051 20102	1K 5% 0,1W
3123	4822 051 20102	1K 5% 0,1W
3124	4822 051 20102	1K 5% 0,1W
3185	4822 051 20759	75R 5% 0,1W
3186	4822 051 20103	10K 5% 0,1W
3193	4822 051 20103	10K 5% 0,1W
3194	4822 051 20103	10K 5% 0,1W
3195	4822 051 20221	220R 5% 0,1W
3196	4822 051 20221	220R 5% 0,1W
3201	4822 051 20103	10K 5% 0,1W
3202	4822 051 20104	100K 5% 0,1W
3203	4822 051 20104	100K 5% 0,1W
3204	4822 051 20104	100K 5% 0,1W
3205	4822 051 20393	39K 5% 0,1W
3206	4822 051 20153	15K 5% 0,1W
3208	4822 111 91536	0R JUMPER
3209	4822 111 91536	0R JUMPER
3210	4822 051 20105	1M 5% 0,1W
3211	4822 051 20829	82R 5% 0,1W
3212	4822 051 20563	56K 5% 0,1W
3213	4822 051 20563	56K 5% 0,1W
3214	4822 051 20829	82R 5% 0,1W
3215	4822 051 20105	1M 5% 0,1W
3216	4822 051 20759	75R 5% 0,1W
3219	4822 051 20561	560R 5% 0,1W
3221	4822 100 11212	2K2 adj. potmeter
3222	4822 100 11212	2K2 adj. potmeter
3224	4822 051 20561	560R 5% 0,1W
3233	4822 111 91536	0R JUMPER
3235	4822 111 91536	0R JUMPER
3236	4822 111 91536	0R JUMPER
3238	4822 051 20562	5K6 5% 0,1W
3239	4822 051 20562	5K6 5% 0,1W
3240	4822 051 20104	100K 5% 0,1W
3241	4822 051 20104	100K 5% 0,1W
3250	4822 051 20103	10K 5% 0,1W
3251	4822 051 20103	10K 5% 0,1W
3252	4822 051 20472	4K7 5% 0,1W
3253	4822 051 20472	4K7 5% 0,1W
3254	4822 051 20103	10K 5% 0,1W
3255	4822 051 20103	10K 5% 0,1W
3256	4822 051 20759	75R 5% 0,1W
3257	4822 051 20759	75R 5% 0,1W
3258	4822 051 20102	1K 5% 0,1W
3259	4822 051 20102	1K 5% 0,1W
3260	4822 051 20103	10K 5% 0,1W
3261	4822 051 20104	100K 5% 0,1W
3262	4822 051 20102	1K 5% 0,1W
3263	4822 051 20102	1K 5% 0,1W
3264	4822 051 20104	100K 5% 0,1W
3265	4822 051 20104	100K 5% 0,1W
3266	4822 051 20104	100K 5% 0,1W
3267	4822 051 20103	10K 5% 0,1W
3268	4822 051 20104	100K 5% 0,1W
3269	4822 051 20104	100K 5% 0,1W
3270	4822 051 20104	100K 5% 0,1W

11b

3271	4822 051 20334	330K 5% 0,1W
3272	4822 116 90336	100R 5%
3273	4822 051 20104	100K 5% 0,1W
3291	4822 051 20224	220K 5% 0,1W
3292	4822 051 20222	2K2 5% 0,1W
3293	4822 051 20393	39K 5% 0,1W
3294	4822 051 20123	12K 5% 0,1W
3295	4822 051 20224	220K 5% 0,1W
3296	4822 051 20224	220K 5% 0,1W
3297	4822 051 20103	10K 5% 0,1W
3298	4822 051 20103	10K 5% 0,1W
3300	4822 051 20153	15K 5% 0,1W
3301	4822 051 20153	15K 5% 0,1W
3302	4822 051 20153	15K 5% 0,1W
3303	4822 051 20153	15K 5% 0,1W
3304	4822 051 20153	15K 5% 0,1W
3305	4822 051 20153	15K 5% 0,1W
3306	4822 051 20153	15K 5% 0,1W
3307	4822 051 20153	15K 5% 0,1W
3308	4822 051 20153	15K 5% 0,1W
3309	4822 051 20153	15K 5% 0,1W
3310	4822 051 20153	15K 5% 0,1W
3311	4822 051 20153	15K 5% 0,1W
3312	4822 051 20153	15K 5% 0,1W
3313	4822 051 20153	15K 5% 0,1W
3314	4822 051 20153	15K 5% 0,1W
3315	4822 051 20153	15K 5% 0,1W
3316	4822 051 20153	15K 5% 0,1W
3317	4822 051 20153	15K 5% 0,1W
3318	4822 051 20153	15K 5% 0,1W
3319	4822 051 20153	15K 5% 0,1W
3320	4822 051 20153	15K 5% 0,1W
3322	4822 051 20153	15K 5% 0,1W
3323	4822 051 20153	15K 5% 0,1W
3327	4822 051 20153	15K 5% 0,1W
3328	4822 051 20153	15K 5% 0,1W
3329	4822 051 20153	15K 5% 0,1W
3330	4822 051 20153	15K 5% 0,1W
3331	4822 051 20153	15K 5% 0,1W
3332	4822 051 20153	15K 5% 0,1W
3334	4822 051 20153	15K 5% 0,1W
3335	4822 051 20153	15K 5% 0,1W
3336	4822 051 20153	15K 5% 0,1W
3337	4822 051 20153	15K 5% 0,1W
3338	4822 051 20153	15K 5% 0,1W
3339	4822 051 20153	15K 5% 0,1W
3340	4822 051 20153	15K 5% 0,1W
3341	4822 051 20153	15K 5% 0,1W
3342	4822 051 20153	15K 5% 0,1W
3343	4822 051 20153	15K 5% 0,1W
3344	4822 051 20153	15K 5% 0,1W
3345	4822 051 20153	15K 5% 0,1W
3346	4822 051 20153	15K 5% 0,1W
3347	4822 051 20153	15K 5% 0,1W
3348	4822 051 20153	15K 5% 0,1W
3349	4822 051 20153	15K 5% 0,1W
3350	4822 051 20102	1K 5% 0,1W
3351	4822 051 20102	1K 5% 0,1W
3352	4822 051 20153	15K 5% 0,1W
3353	4822 051 20153	15K 5% 0,1W
3360	4822 051 20102	1K 5% 0,1W
3361	4822 051 20102	1K 5% 0,1W
3363	4822 051 20273	27K 5% 0,1W
3364	4822 051 20102	1K 5% 0,1W
3365	4822 051 20102	1K 5% 0,1W
3640	4822 051 20103	10K 5% 0,1W
3641	4822 116 90338	1K5 5%

3642	4822 051 20272	2K7 5% 0,1W
3643	4822 116 90338	1K5 5%
3644	4822 051 20272	2K7 5% 0,1W
3645	4822 051 20103	10K 5% 0,1W
3646	4822 051 20473	47K 5% 0,1W
3647	4822 051 20102	1K 5% 0,1W
3648	4822 051 20103	10K 5% 0,1W
3649	4822 051 20103	10K 5% 0,1W
3650	4822 051 20109	10R 5% 0,1W
3800	4822 051 20224	220K 5% 0,1W
3801	4822 051 20225	2M2 5% 0,1W
3802	4822 116 80464	4R7 10% 0,6W
3803	4822 051 20109	10R 5% 0,1W
3901	4822 116 90434	1K 1% 0,25W
3902	4822 116 90434	1K 1% 0,25W

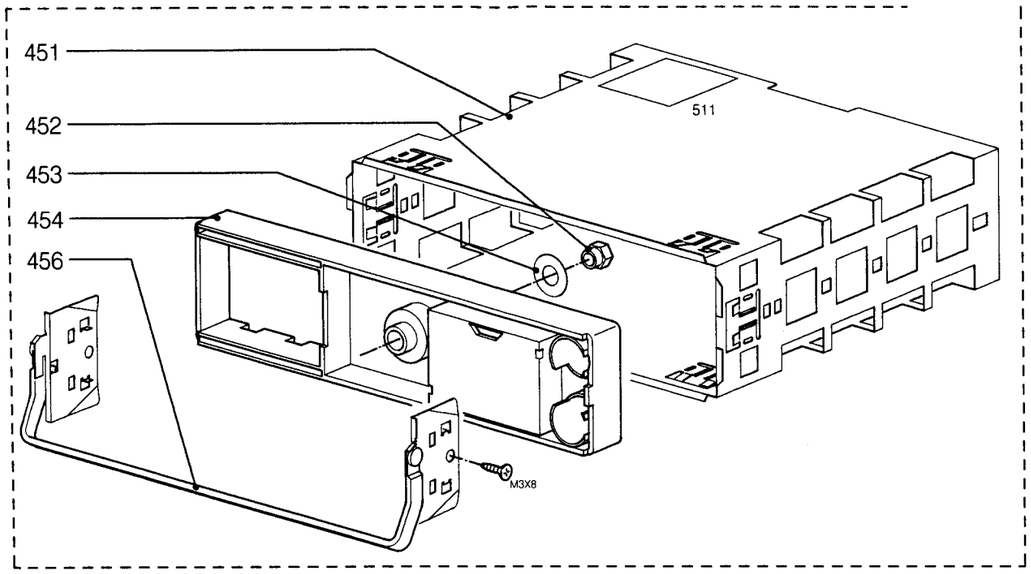
5110	4822 157 50975	1 mH
5111	4822 157 50975	1 mH
5112	4822 157 50975	1 mH
5113	4822 157 50975	1 mH
5130	4822 152 20681	160 µH

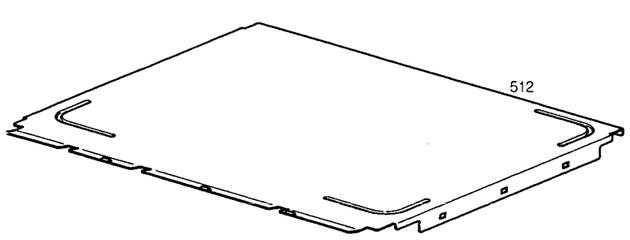
1157	4822 900 71521	X2404 EEPROM RC F-A
1640	4822 209 62773	NR9550 Dolby
6119	4822 209 72252	L4904 Stabilizer
6122	4822 209 72227	L4916 Stabilizer
6129	5322 209 83269	SAA1045P Bus interface
6130	4822 209 61405	PCF84C21P/035 µC
6140	4822 209 71871	TA7784P Pre-amplifier
6162	4822 209 63492	TMP47C800 RC F983-A.1.A µC
6166	4822 209 63493	TMP47C800 RC I983-A.1.- µC
6169	4822 209 72042	MC78L05ACP Stabilizer
6170	4822 209 62491	LM1877 Dual opamp.
6800	4822 209 61374	U2506B-FP IR-amplifier
6801	4822 209 72893	PCF8566T LCD Driver
6802	4822 209 72893	PCF8566T LCD Driver

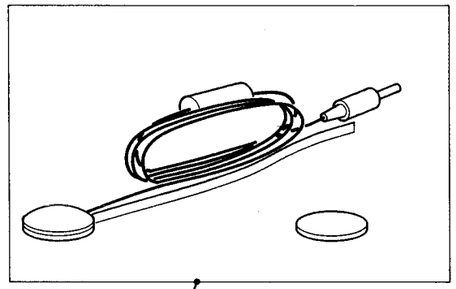
BAV99	5322 130 34337
BC847	4822 130 42705
BC857	4822 130 61233
BD438	4822 130 40995
BPW82	4822 130 81627
BZV55-C5V6	4822 130 80954
BZX79-C3V3	5322 130 31504
BZX79-C5V1	4822 130 34233
S5566B	4822 130 81196
TLSG3300	4822 130 80921
1N4148	4822 130 30621

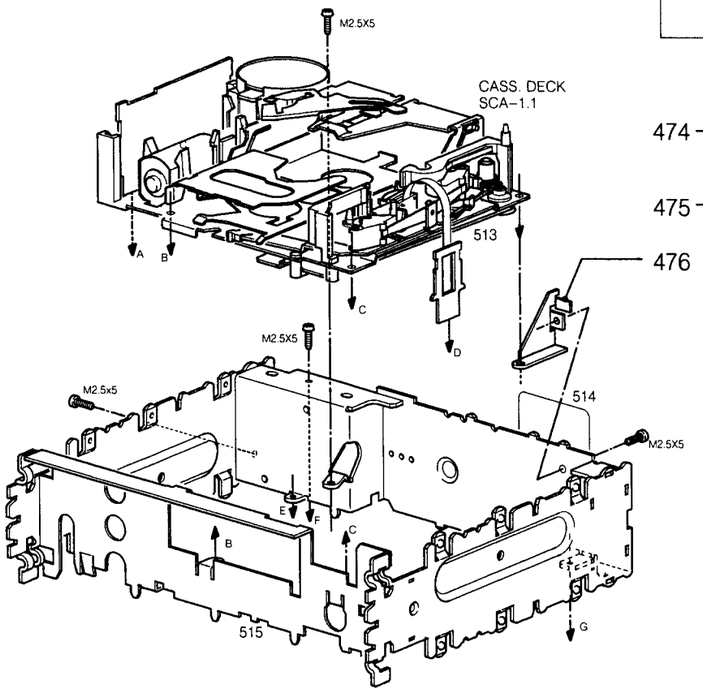
MISCELLANEOUS

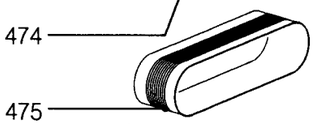
1003	4822 071 23002	Fuse 3A
1101	4822 242 72863	Ceram. filter 8 MHz
1161	4822 242 71508	Ceram. filter 6 MHz
1162	4822 242 71508	Ceram. filter 6 MHz
1850	4822 134 40906	Lamp 14V 50mA clear
1851	4822 134 41023	Lamp 14V 50mA red
1852	4822 134 40862	Lamp 14V 100mA red
1853	4822 134 40862	Lamp 14V 100mA red
1854	4822 134 41023	Lamp 14V 50mA red
1855	4822 134 41023	Lamp 14V 50mA red
1859	4822 130 90843	Display



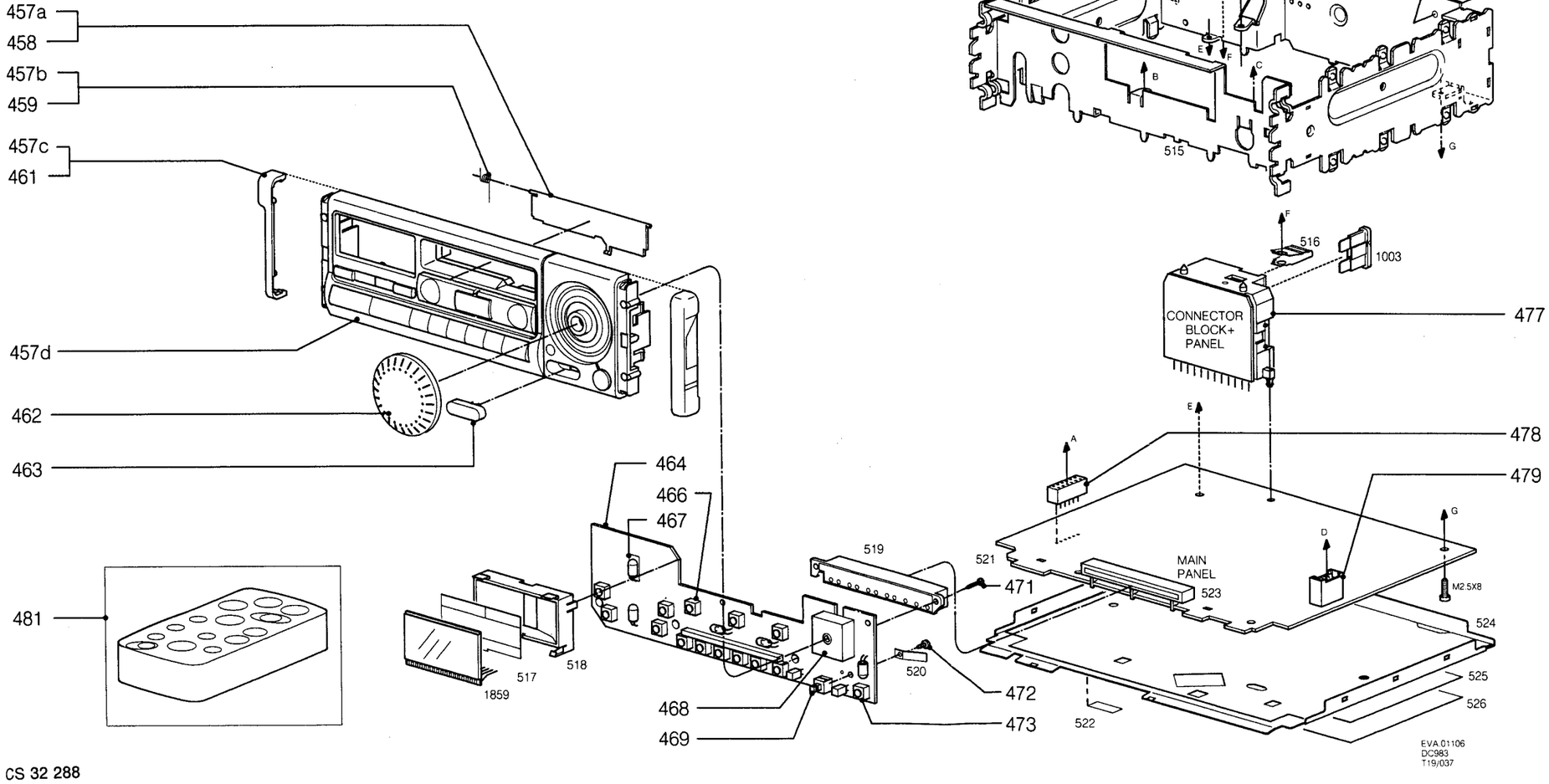






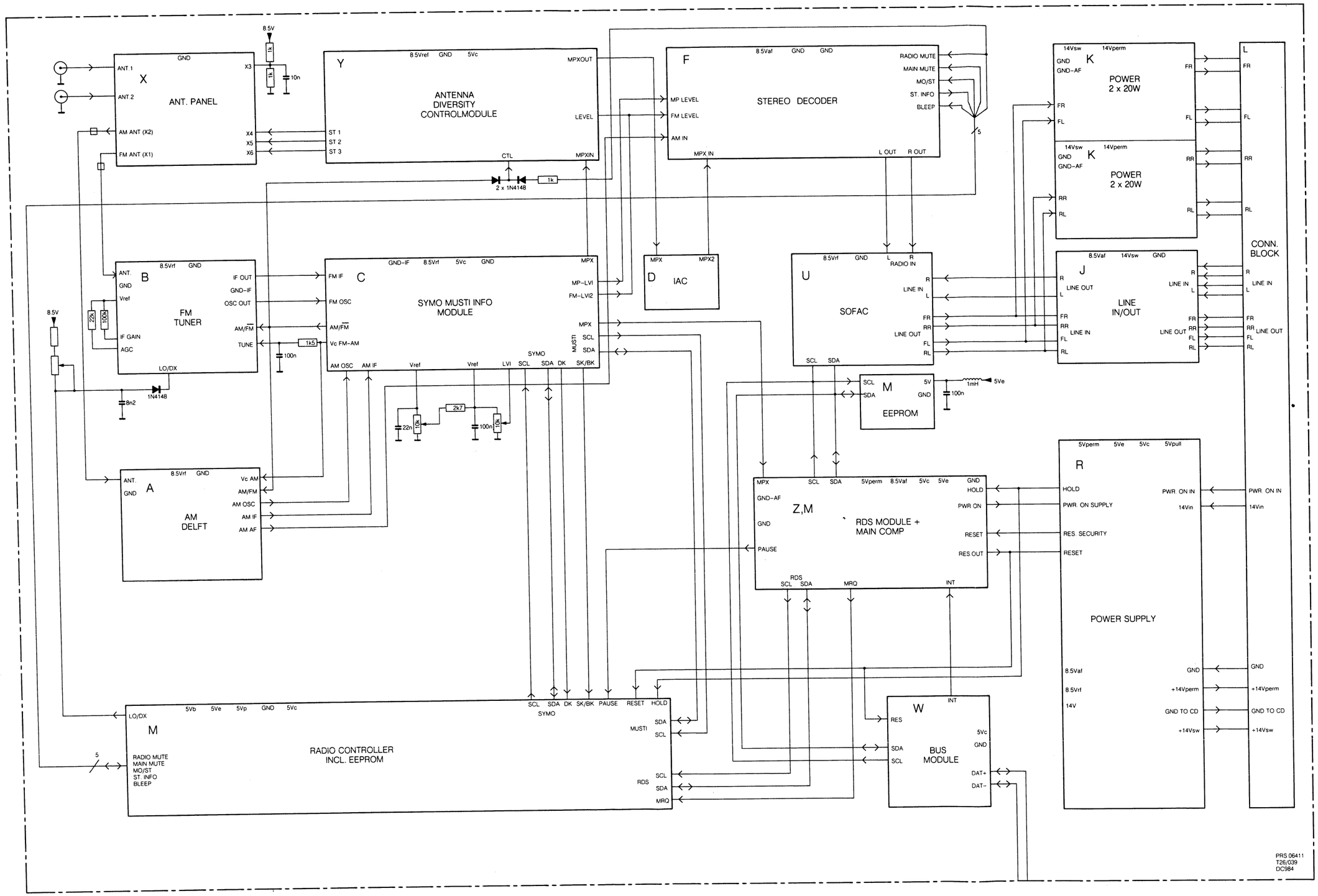


476

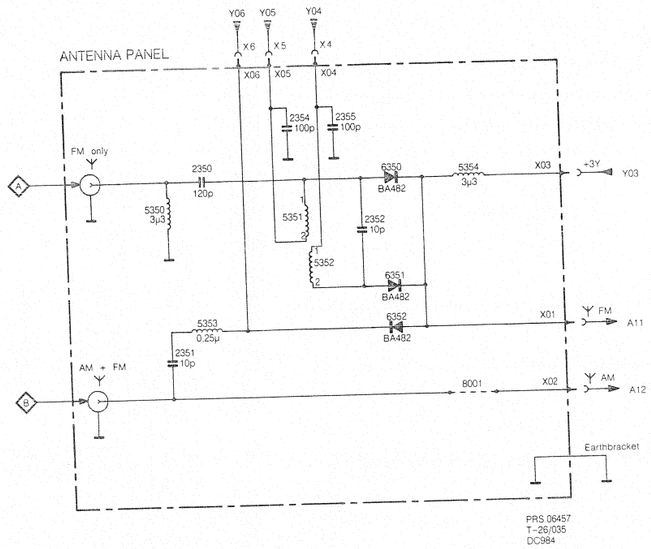


451	4822 691 10289
452	4822 505 10953
453	4822 530 70476
454	4822 423 41025
456	4822 498 10354
457	4822 459 50577
458	4822 443 63028
459	4822 492 41276
461	4822 443 63039
462	4822 413 41583
463	4822 410 60526
464	4822 459 50578
467	4822 255 30175
468	4822 276 12405
469	4822 276 12467
471	4822 502 30542
472	4822 502 30541
473	4822 276 12469
475	4822 466 82593
476	4822 404 21111
477	4822 290 60956
478	4822 267 51007
479	4822 267 40818
481	4822 218 10348

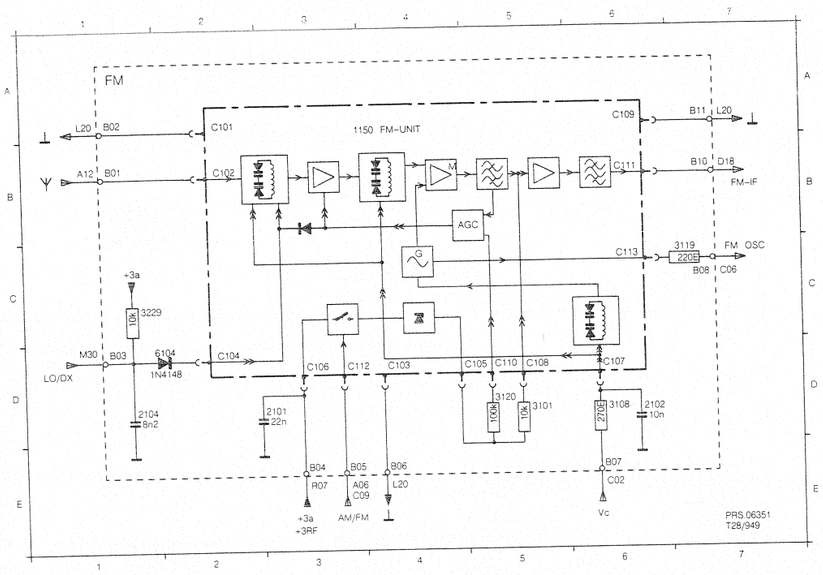
EVA.01106
DC983
T19/037


X
ANT. PANEL
ANT 1
ANT 2
AM ANT (X2)
FM ANT (X1)
GND
X3
X4
X5
X6
8.5V
1k
10n
Y
ANTENNA DIVERSITY CONTROLMODULE
8.5Vref GND 5Vc
MPXOUT
LEVEL
MPXIN
ST 1
ST 2
ST 3
CTL
2 x 1N4148
F
STEREO DECODER
8.5Vaf GND GND
MP LEVEL
FM LEVEL
AM IN
MPX IN
RADIO MUTE
MAIN MUTE
MO/ST
ST. INFO
BLEEP
L OUT R OUT
K
POWER 2 x 20W
14Vsw 14Vperm
GND
GND-AF
FR FL RR RL
B
FM TUNER
8.5Vrf GND
ANT.
GND
Vref
IF GAIN
AGC
LO/DX
IF OUT
GND-IF
OSC OUT
AM/FM
TUNE
22k
100k
1N4148
8n2
C
SYMO MUSTI INFO MODULE
GND-IF 8.5Vrf 5Vc GND
FM IF
FM OSC
AM/FM
Vc FM-AM
AM OSC AM IF Vref Vref LVI SCL SDA DK SK/BK
SYMO
MUSTI
MPX
MP-LVI
FM-LVI2
SCL
SDA
1k5
100n
22n
10k
2k7
D
IAC
MPX MPX2
U
SOFAC
8.5Vrf GND L R
RADIO IN
LINE IN
LINE OUT
J
LINE IN/OUT
8.5Vaf 14Vsw GND
M
EEPROM
SCL SDA
5V GND
1mH
5Ve
100n
L
CONN. BLOCK
FR FL RR RL
LINE IN
LINE OUT
A
AM DELFT
8.5Vrf GND
ANT.
GND
Vc AM
AM/FM
AM OSC
AM IF
AM AF
Z,M
RDS MODULE + MAIN COMP
MPX SCL SDA 5Vperm 8.5Vaf 5Vc 5Ve GND
GND-AF
GND
PAUSE
HOLD
PWR ON
RESET
RES.OUT
RDS SCL SDA MRQ
INT
R
POWER SUPPLY
5Vperm 5Ve 5Vc 5Vpull
HOLD
PWR. ON SUPPLY
RES. SECURITY
RESET
PWR. ON IN
14Vin
8.5Vaf
8.5Vrf
14V
GND
+14Vperm
GND TO CD
+14Vsw
M
RADIO CONTROLLER INCL. EEPROM
5Vb 5Ve 5Vp GND 5Vc
LO/DX
RADIO MUTE
MAIN MUTE
MO/ST
ST. INFO
BLEEP
SCL SDA DK SK/BK PAUSE RESET HOLD
SYMO
MUSTI
RDS
MRQ
W
BUS MODULE
RES
SDA
SCL
INT
5Vc
GND
DAT+
DAT-
PRS.06411
T26/039
DC984

14a



14b



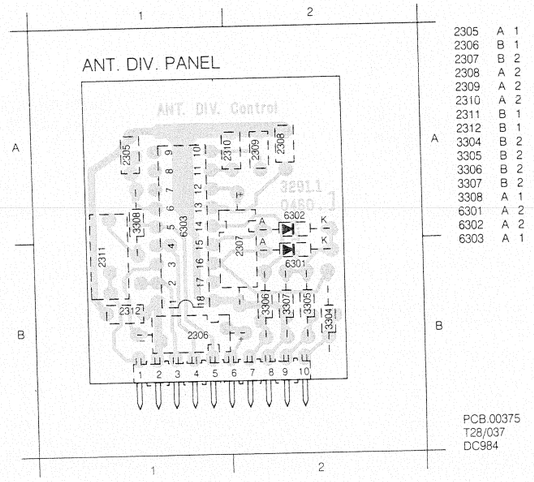
2101 D3
2102 D6
2104 D1
3101 D5
3108 D6
3119 C7
3120 D5
3229 C1
6104 D2

1150 FM Unit

1 GND
2 Antenna signal
3 GND
4 0 V
5 1,7 V
6 8,5 V
7 1,3 - 5,8 V
8 1,6 V
9 GND
10 1,7 V
11 0 V
12 0,2 V FM
5,0 V AM
13 1,9 V

6303 TEA6101

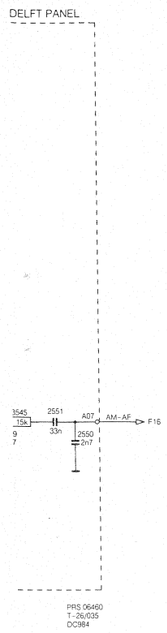
1 8,5 V
2 0 V FM
4,5 V AM
3 3,7 V
4 5,3 V
5 FM - level
6 5,4 V
7 n.c.
8 n.c.
9 n.c.
10 5,0V
11 5,3 V
12 5,3 V
13 ⎍⎍
14 ⎍⎍
15 ⎍⎍
16 ⎍⎍
17 n.c.
18 GND

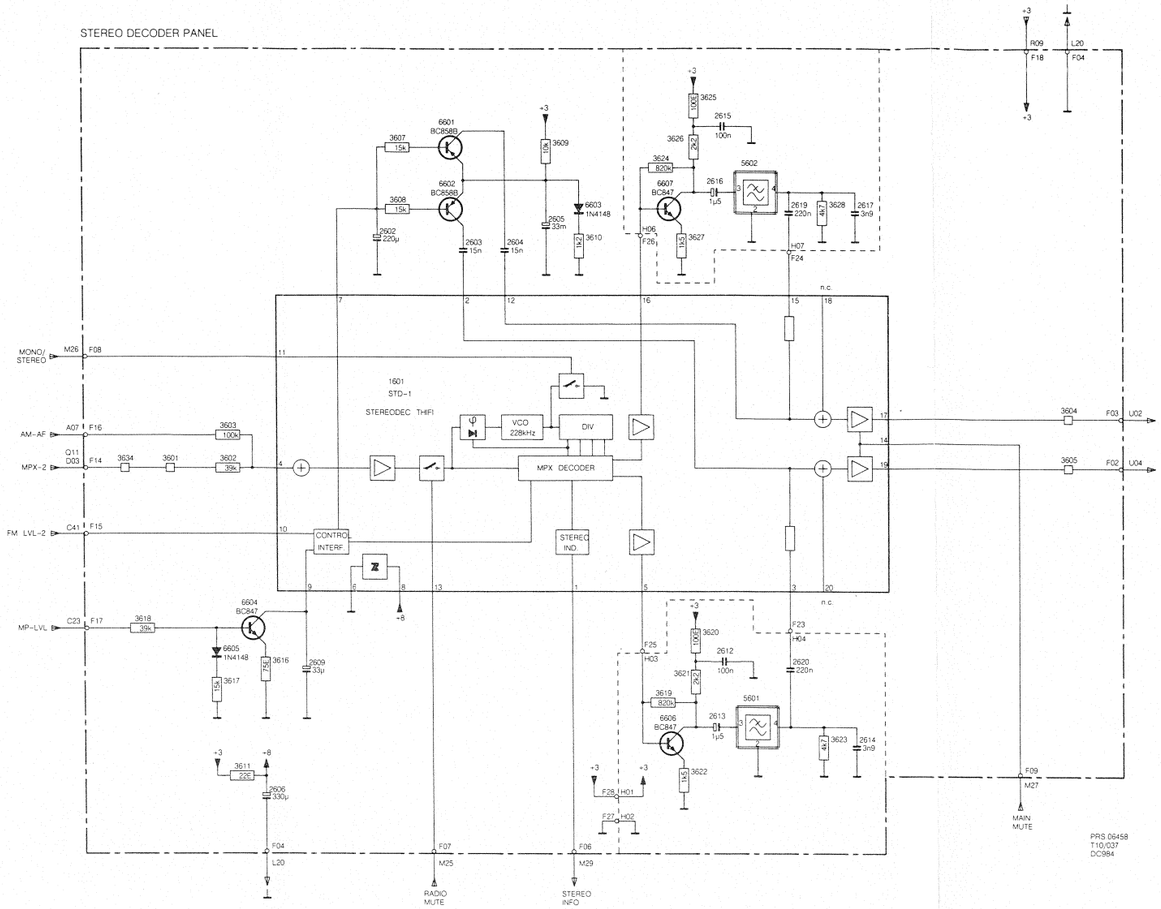


2305 A 1
2306 B 1
2307 B 2
2308 A 2
2309 A 2
2310 A 2
2311 B 1
2312 B 1
3304 B 2
3305 B 2
3306 B 2
3307 B 2
3308 A 1
6301 A 2
6302 A 2
6303 A 1

15b

15c



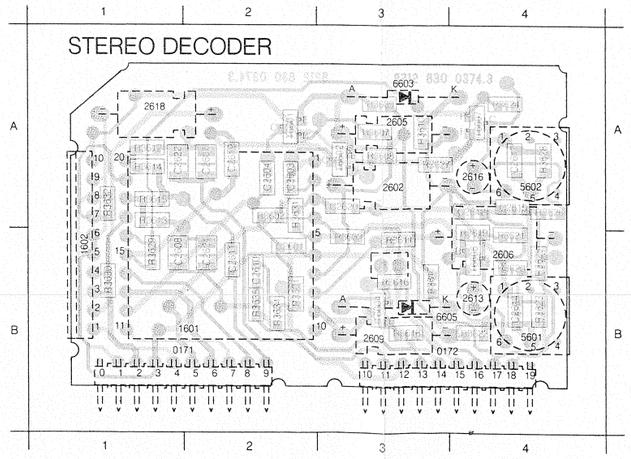


1 TEA6200

6,8 V	
4,0 V	
8,4 V	
8,4 V	
8,4 V	
8,4 V	
0,6 V	
4,0 V	
4,0 V	
4,0 V	
6,8 V	
1,3 V	
5,0 V	
5,0 V	
4,7 V	
4,7 V	
GND	
1,0 V	
1,3 V	
3,2 V	

1601 STD - 1

1	0,5 V Stereo
	5,0 V Mono
	5,0 V Info
2	3,4 V
3	3,4 V
4	2,6 V
5	2,2 V
6	GND
7	1,0 V
8	8,3 V
9	4,2 V
10	FM - level
11	0 V FM
	4,3 V AM
12	3,4 V
13	0 V
	3,3 V search FM
	4,8 V search AM
14	4,9 V
15	3,4 V
16	2,2 V
17	3,4 V
18	n.c.
19	3,4 V
20	n.c.

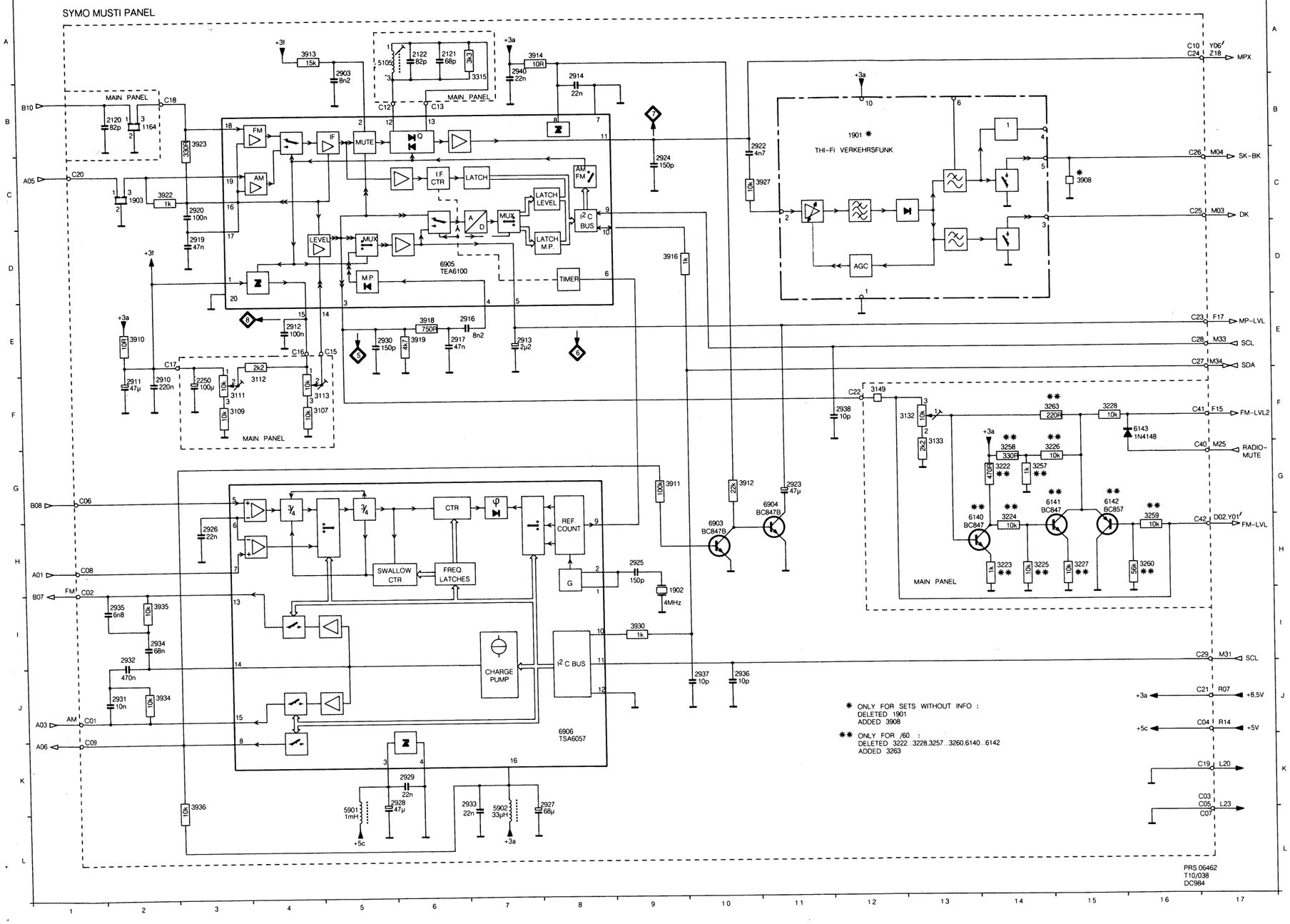


PCB.00382
T07-951

2602	A3	R3616	B3
2605	A3	R3617	B3
2609	B3	R3618	B3
2618	A1	R3619	B4
6603	A3	R3620	B4
6605	B3	R3621	B4
C2601	B2	R3622	B4
C2603	A2	R3623	B4
C2604	A2	R3624	A4
C2607	A2	R3625	B4
C2608	B1	R3626	A4
C2610	B2	R3627	A3
C2611	B2	R3628	A4
C2612	A4	R3629	B1
C2614	B4	R3630	B1
C2615	A4	R3631	A2
C2617	A4	R3632	A1
C2619	A2	R3634	B2
C2620	A3	R3635	B2
C2621	B2	T6601	A2
C2622	A1	T6602	A3
R3601	B2	T6604	B3
R3602	A2	T6606	B4
R3603	B3	T6607	A4
R3607	A3		
R3608	A3		
R3609	A3		
R3610	A3		
R3611	B3		
R3612	A1		
R3613	A1		
R3614	A1		
R3615	A1		

16a

16b



1164 B2
1901 B12
1902 I 9
1903 C2
2120 B2
2121 A6
2122 A6
2250 F3
2903 A5
2910 F2
2911 F2
2912 E4
2913 E7
2914 A8
2916 E7
2917 E6
2919 D3
2920 C3
2922 B11
2923 G11
2924 C9
2925 H9
2926 H3
2927 K7
2928 K5
2929 K6
2930 E5
2931 J2
2932 I 2
2933 K6
2934 I 2
2935 I 2
2936 J10
2937 J10
2938 F12
2940 A7
3107 F4
3109 F3
3111 F4
3112 F4
3113 F5
3132 F13
3133 G13
3149 F12
3222 G14
3223 H14
3224 H14
3225 H14
3226 G15
3227 H15
3228 F15
3257 G14
3258 G14
3259 H16
3260 H16
3263 F15
3315 A7
3908 C15
3910 E2
3911 G9
3912 G10
3913 A5
3914 A8
3916 D9
3918 E6
3919 E6
3922 C3
3923 B3
3927 C11
3930 I 9
3934 J2
3935 I 2
3936 K3
5105 A6
5901 K5
5902 K7
6140 H14
6141 G15
6142 G15
6143 F16
6903 H10
6904 G11
6905 D6
6906 J8

1901 VF Thifi

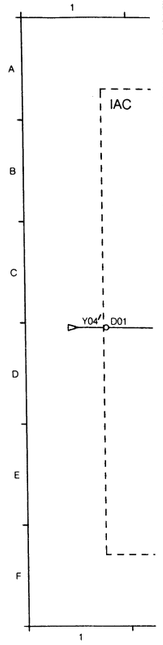
1 GND
2 0 V
3 0 V
4,8 V DK
4 n.c.
5 0 V
4,8 V SK / BK
6 n.c.
7 n.c.
8 n.c.
9 n.c.
10 8,6 V

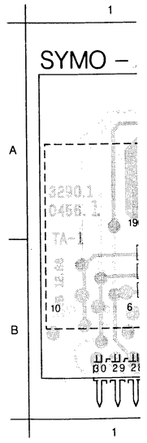
6905 TEA6100

1 8,4 V
2 1,4 V
3 0 - 4,0 V
4 0 V FM
1,8 V AM
5 MP - level
6 0,3 V
7 GND
8 8,4 V
9 4,8 V
10 4,8 V
11 4,0 - 5,5 V
12 4,5 V
13 4,5 V
14 2,5 V FM
3,0 V AM
15 4,3 V FM
5,5 V AM
16 2,9 V
17 2,9 V
18 2,9 V
19 2,9 V
20 GND

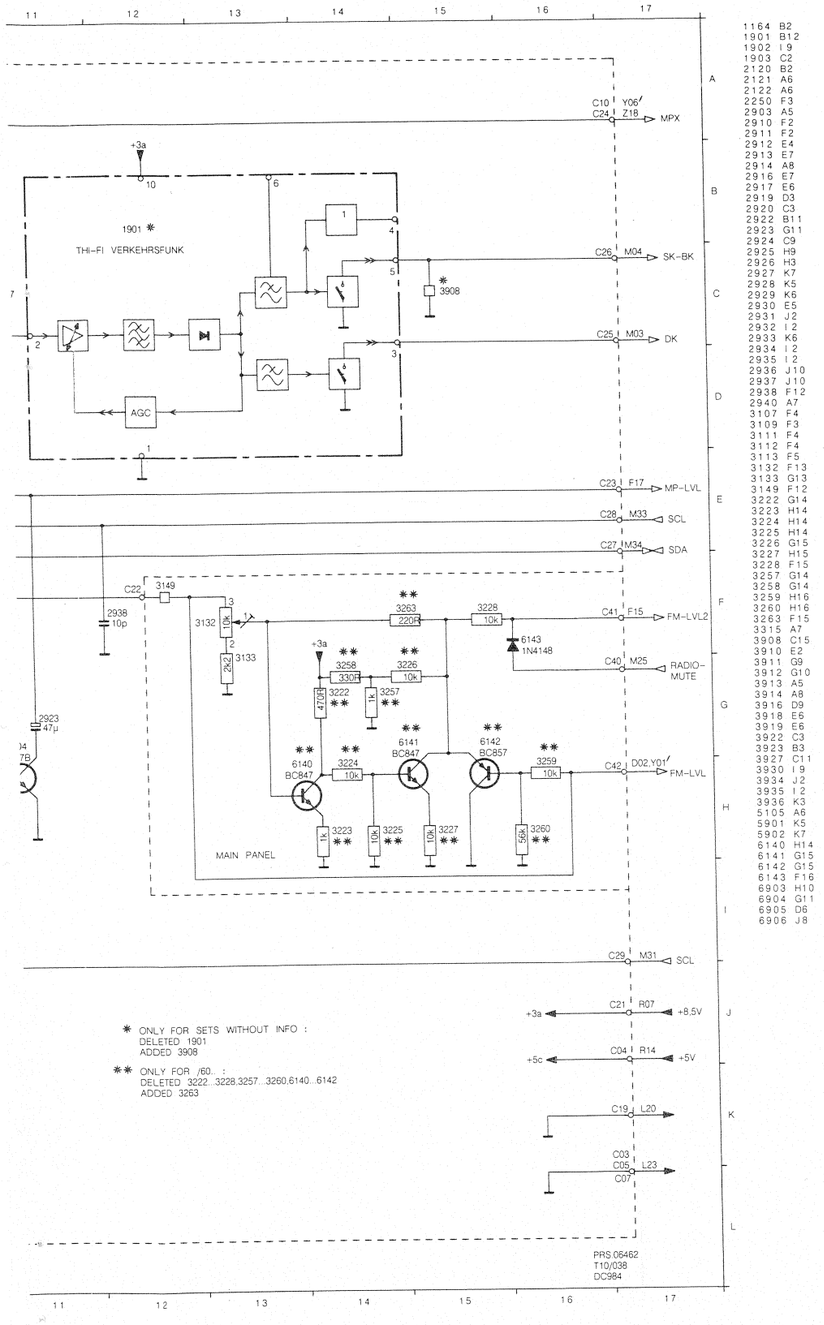
6906 TSA6057

1 4 MHz
2 4 MHz
3 4,7 V
4 GND
5 1,9 V
6 0 V
7 1,9 V
8 0,2 V FM
5,0 V AM
9 0,3 V
10 4,8 V
11 4,8 V
12 GND
13 1,3 V - 5,8 V
14 2,0 V
15 0 V FM
3,0 V LW
3,7 V MW
5,5 V SW
16 8,5 V





16b



* ONLY FOR SETS WITHOUT INFO :
DELETED 1901
ADDED 3908

** ONLY FOR /60.. :
DELETED 3222...3228,3257...3260,6140...6142
ADDED 3263

1164 B2
1901 B12
1902 I9
1903 C2
2120 B2
2121 A6
2122 A6
2250 F3
2903 A5
2910 F2
2911 F2
2912 E4
2913 E7
2914 A8
2916 E7
2917 E6
2919 D3
2920 C3
2922 B11
2923 G11
2924 C9
2925 H9
2926 H3
2927 K7
2928 K5
2929 K6
2930 E5
2931 J2
2932 I2
2933 K6
2934 I2
2935 I2
2936 J10
2937 J10
2938 F12
2940 A7
3107 F4
3109 F3
3111 F4
3112 F4
3113 F5
3132 F13
3133 G13
3149 F12
3222 G14
3223 H14
3224 H14
3225 H14
3226 G15
3227 H15
3228 F15
3257 G14
3258 G14
3259 H16
3260 H16
3263 F15
3315 A7
3908 C15
3910 E2
3911 G9
3912 G10
3913 A5
3914 A8
3916 D9
3918 E6
3919 E6
3922 C3
3923 B3
3927 C11
3930 I9
3934 J2
3935 I2
3936 K3
5105 A6
5901 K5
5902 K7
6140 H14
6141 G15
6142 G15
6143 F16
6903 H10
6904 G11
6905 D8
6906 J8

1901 VF Thifi

1 GND
2 0 V
3 0 V
4,8 V DK
4 n.c.
5 0 V
4,8 V SK / BK
6 n.c.
7 n.c.
8 n.c.
9 n.c.
10 8,6 V

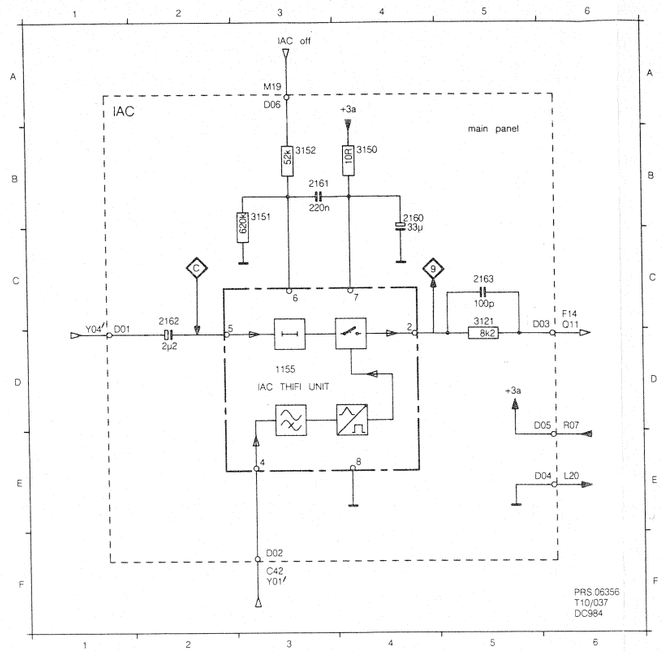
6905 TEA6100

1 8,4 V
2 1,4 V
3 0 - 4,0 V
4 0 V FM
1,8 V AM
5 MP - level
6 0,3 V
7 GND
8 8,4 V
9 4,8 V
10 4,8 V
11 4,0 - 5,5 V
12 4,5 V
13 4,5 V
14 2,5 V FM
3,0 V AM
15 4,3 V FM
5,5 V AM
16 2,9 V
17 2,9 V
18 2,9 V
19 2,9 V
20 GND

6906 TSA6057

1 4 MHz
2 4 MHz
3 4,7 V
4 GND
5 1,9 V
6 0 V
7 1,9 V
8 0,2 V FM
5,0 V AM
9 0,3 V
10 4,8 V
11 4,8 V
12 GND
13 1,3 V - 5,8 V
14 2,0 V
15 0 V FM
3,0 V LW
3,7 V MW
5,5 V SW
16 8,5 V

16c

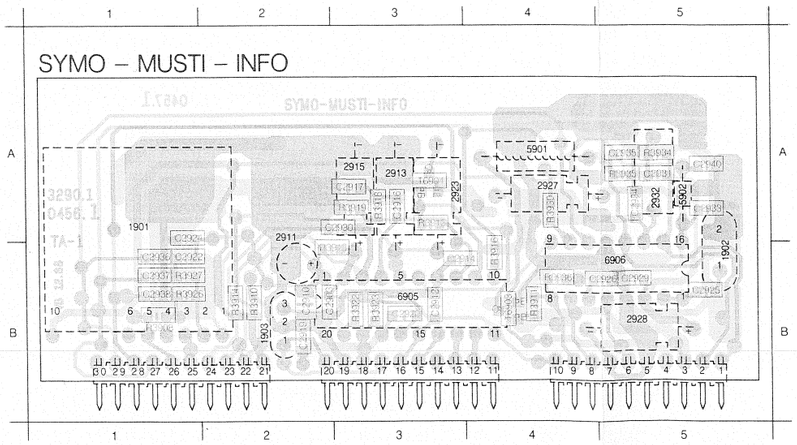


2160 B4
2161 B3
2162 C2
2163 C5
3121 C5
3150 B4
3151 B3
3152 B3

1155 IAC Thifi

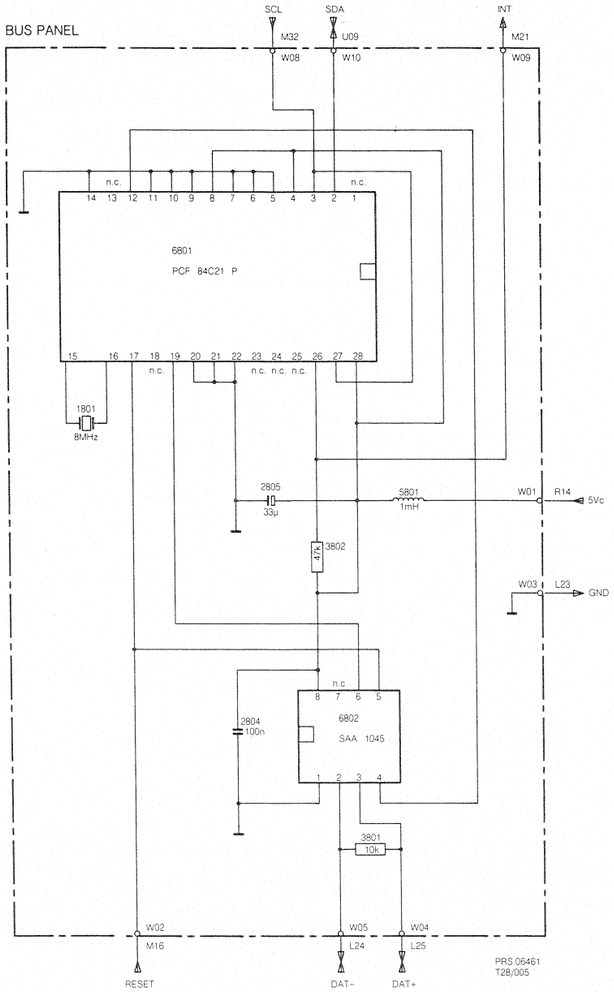
1 n.c.
2 2,6 V
3 n.c.
4 FM - level
5 4,3 V
6 8,4V
7 8,4V
8 GND

SYMO – MUSTI – INFO



1901 A1
1902 B5
1903 B2
2913 A3
2915 A3
2923 A3
2927 A4
2928 B5
5901 A4
5902 A5
6905 B3
6906 B5
C2903 B3
C2910 B2
C2912 B3
C2914 B3
C2916 A3
C2917 A3
C2919 B2
C2920 B3
C2922 B1
C2924 A1
C2925 B5
C2926 B5
C2929 B5
C2930 A3
C2931 A5
C2933 A5
C2934 A5
C2935 A5
C2936 B1
C2937 B1
C2938 B1
C2940 A5
R3908 B1
R3910 B2
R3911 B4
R3912 A3
R3913 B3
R3914 B2
R3916 B4
R3918 A3
R3919 A3
R3922 B3
R3923 B3
R3926 B1
R3927 B1
R3930 A4
R3934 A5
R3935 A5
R3936 B4
T6903 B4
T6904 A3

17a

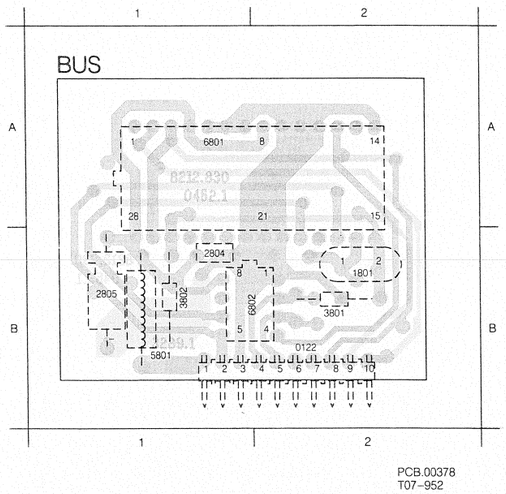


6801 PCF84C21P

1 n.c.
2 5,0 V
3 5,0 V
4 5,0 V
5 GND
6 GND
7 GND
8 5,0 V
9 GND
10 GND
11 GND
12 4,8 V
13 n.c.
14 GND
15 2,4 V 8 MHz
16 2,4 V 8 MHz
17 0 V
18 n.c.
19 5,0 V
20 GND
21 GND
22 GND
23 n.c.
24 n.c.
25 n.c.
26 5,0 V
27 5,0 V
28 5,0 V

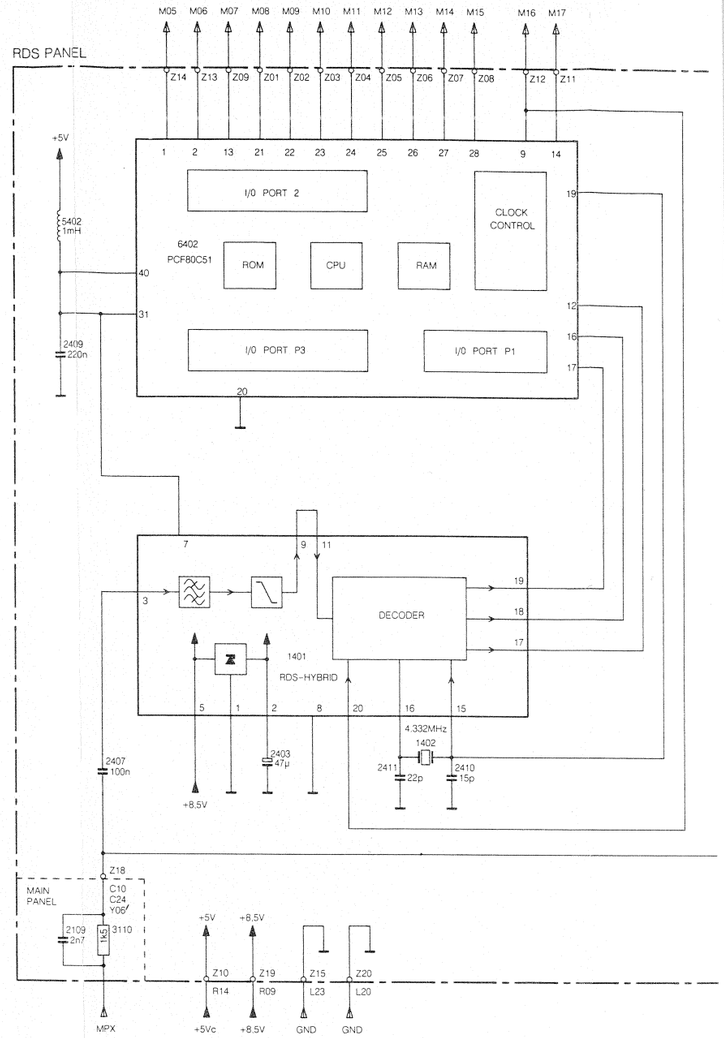
6802 SAA1045

1 GND
2 2,5 V DAT
3 2,5 V DAT
4 4,8 V
5 0 V
6 5,0 V
7 n.c.
8 5,0 V



0122 B2
1801 B2
2804 B1
2805 B1
3801 B2
3802 B1
5801 B1
6801 A1
6802 B2

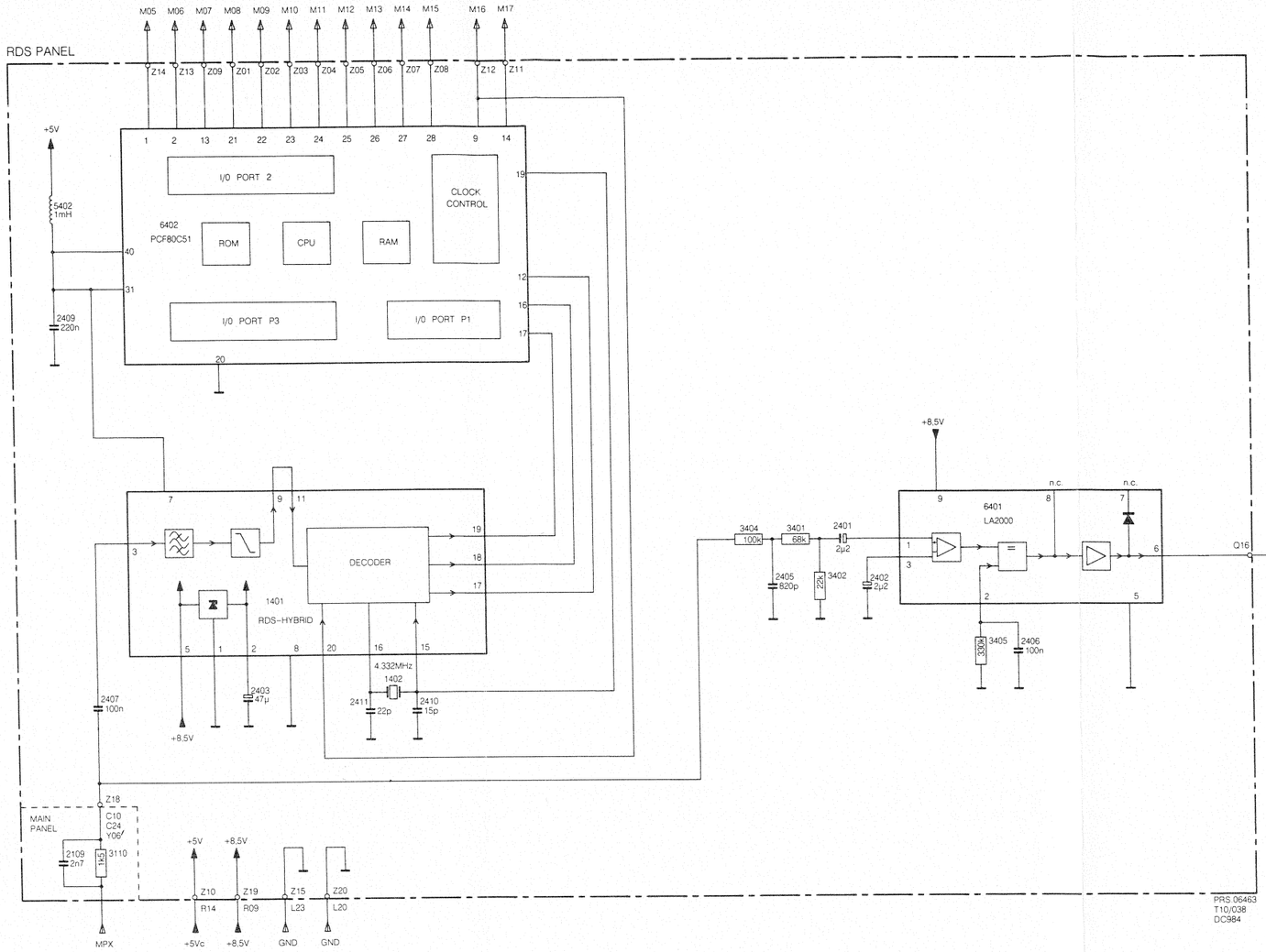
17b



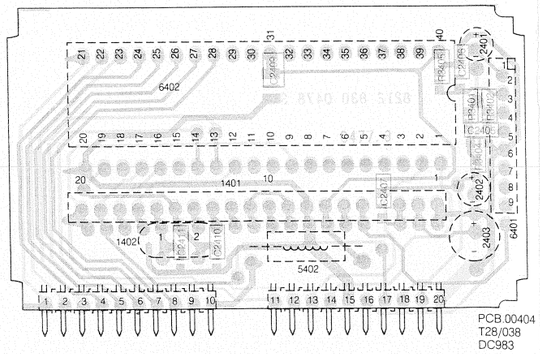
RDS P.

17b

17c



RDS PANEL



1401 RDS - Thifi

1 GND
2 4,3 V
3 4,3 V
4 n.c.
5 8,5 V
6 n.c.
7 4,9 V
8 GND
9 2,0 - 3,0 V FM
0 V AM
10 n.c.
11 2,0 V- 3,0 V FM
0 V AM
12 n.c.
13 n.c.
14 n.c.
15 2,4 V
16 2,4 V
17 2,5 V
18 0 V AM
19 0 V AM
20 0 V

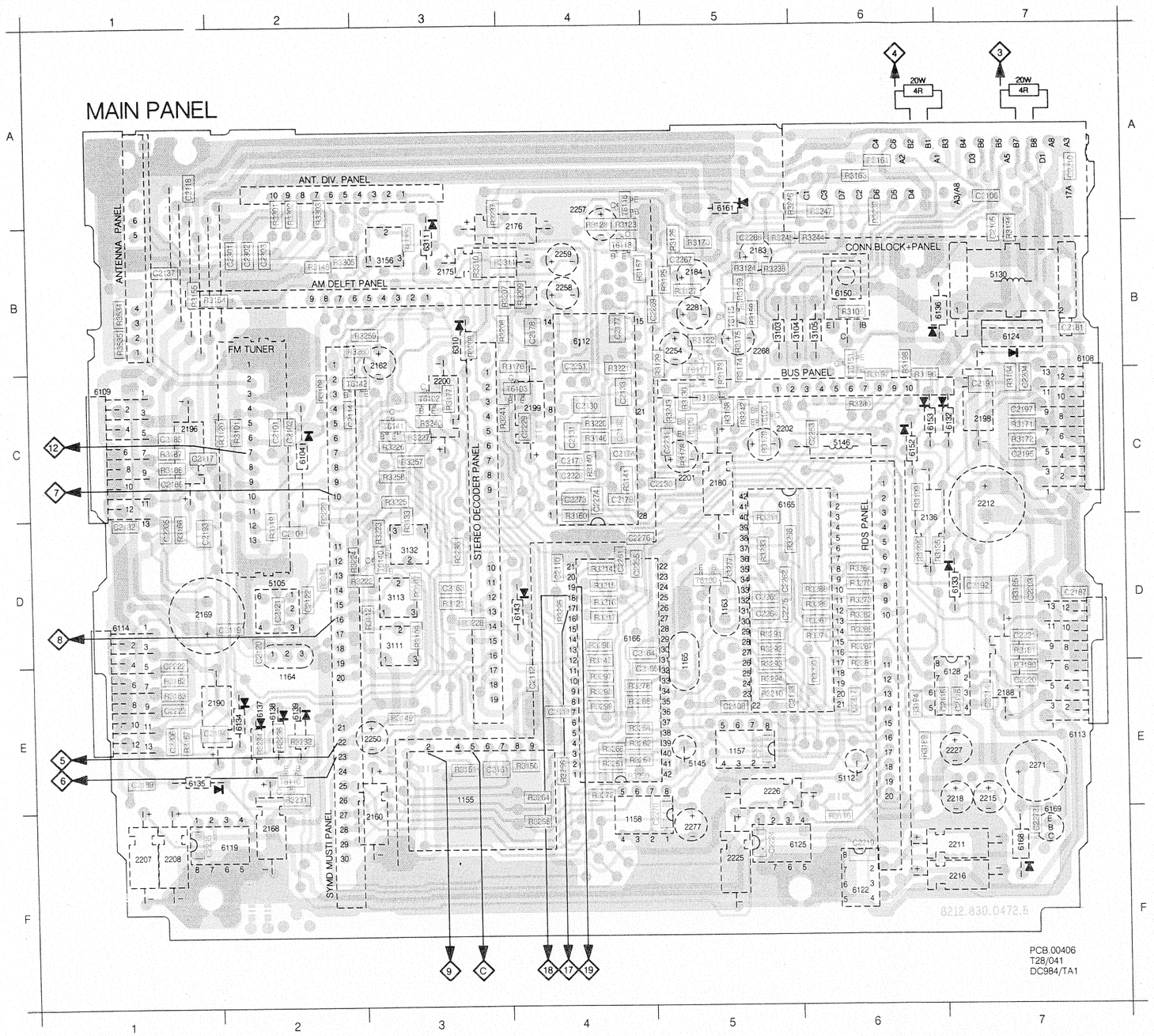
6401 LA2000

1 2,0 V
2 8,3 V
3 2,0 V
4 n.c.
5 GND
6 5,0 V
7 n.c,
8 n.c.
9 8,5 V

6402 D80051

1 5,0 V
2 5,0 V
3 - 8 n.c.
9 0 V
10 n.c.
11 n.c.
12 2,5 V
13 5,0 V RDS on
0 V RDS of
14 5,0 V
15 n.c.
16
17
18 n.c.
19 2,4 V
20 GND
21 -28 RDS - Data
29 n.c.
30 n.c.
31 4,9 V
32 - 39 n.c.
40 4,9 V

18a



18b

1155 E3	C2113 E5	R3134 B7	R3264 E4
1157 E5	C2114 C2	R3135 D6	R3266 D5
1158 F4	C2115 E7	R3140 C4	R3267 D6
1163 D5	C2116 E7	R3141 C4	R3268 E4
1164 E2	C2117 C1	R3142 E4	R3270 D6
1165 D5	C2118 A1	R3146 C4	R3271 D6
2136 D6	C2119 D2	R3148 B2	R3272 E4
2160 F3	C2120 D2	R3149 E3	R3273 D6
2162 B3	C2121 D2	R3150 E4	R3277 D5
2168 F2	C2122 D2	R3151 E3	R3278 E4
2169 D1	C2130 C4	R3154 B2	R3280 C6
2175 B3	C2131 C4	R3155 B1	R3281 E6
2176 B4	C2132 C4	R3157 B4	R3282 D6
2180 C5	C2133 C4	R3158 C5	R3283 D5
2183 B5	C2137 B1	R3159 B5	R3284 D6
2184 B5	C2161 E3	R3160 D4	R3285 D6
2188 E7	C2163 D3	R3161 A6	R3286 E4
2190 E1	C2164 D4	R3163 A6	R3287 D6
2196 C1	C2165 E4	R3164 C7	R3288 D6
2198 C7	C2173 C4	R3165 D7	R3289 D6
2199 C4	C2174 C4	R3166 D1	R3290 E6
2200 C3	C2177 B4	R3167 E1	R3291 D5
2201 C5	C2178 B4	R3168 C5	R3292 D5
2202 C5	C2179 C4	R3169 B5	R3293 E5
2207 F1	C2181 B7	R3170 B5	R3294 E5
2208 F1	C2182 D1	R3171 C7	R3295 D4
2211 F7	C2185 C1	R3172 C7	R3296 D4
2212 C7	C2186 C1	R3173 C5	R3297 E4
2215 E7	C2187 D7	R3174 C5	R3298 E4
2216 F7	C2189 E1	R3175 B5	R3299 E4
2218 E7	C2191 C7	R3176 B4	R3301 A2
2225 F5	C2192 D7	R3177 C3	R3302 A2
2226 E5	C2193 D1	R3178 C5	R3303 A2
2227 E7	C2194 E1	R3179 C5	R3305 B2
2250 E3	C2195 C7	R3180 E7	R3306 B3
2254 B5	C2197 C7	R3181 D7	R3310 B3
2257 A4	C2203 D7	R3182 E1	R3311 B4
2258 B4	C2204 C7	R3183 E1	R3315 D2
2259 B4	C2205 D1	R3186 C1	R3534 B1
2268 B5	C2206 E1	R3187 C1	R3535 B1
2271 E7	C2210 A7	R3189 E6	T6102 C3
2277 F5	C2214 E7	R3194 E6	T6103 C4
2281 B5	C2217 E6	R3195 D6	T6105 C5
3103 B5	C2219 F6	R3196 C6	T6106 C5
3104 B6	C2220 E7	R3197 C6	T6110 E2
3105 B6	C2221 D7	R3198 B6	T6115 B5
3111 D3	C2222 E1	R3199 C6	T6116 A4
3113 D3	C2223 E1	R3206 B4	T6117 C5
3132 D3	C2224 F5	R3207 B4	T6118 B4
3156 B3	C2228 C4	R3208 B3	T6120 D5
5105 D2	C2229 C4	R3209 B4	T6140 D3
5112 E6	C2230 C5	R3210 E5	T6141 C3
5130 B7	C2231 C5	R3211 D5	T6142 C3
5145 E5	C2235 F1	R3214 D4	T6151 B6
5146 C6	C2236 E5	R3215 D4	
6104 C2	C2251 B4	R3216 D4	
6108 B7	C2255 D4	R3217 D4	
6109 C1	C2261 D4	R3220 C4	
6112 B4	C2262 D5	R3221 C4	
6113 E7	C2263 C6	R3222 D3	
6114 D1	C2264 D5	R3223 D3	
6119 F2	C2265 D5	R3224 D2	
6122 F6	C2266 B5	R3225 C3	
6124 B7	C2267 B5	R3226 C3	
6125 F5	C2269 B5	R3227 C3	
6128 E7	C2270 F5	R3228 D3	
6132 C7	C2272 F7	R3229 C2	
6133 D7	C2273 C4	R3231 E2	
6134 E2	C2274 C4	R3232 E2	
6135 E1	C2275 D5	R3234 E2	
6136 B7	C2276 D4	R3235 E2	
6137 E2	C2301 B2	R3236 D3	
6138 E2	C2302 B2	R3237 A3	
6139 E2	C2303 B2	R3238 B5	
6143 D4	R3101 C2	R3239 A6	
6150 B6	R3106 B6	R3240 C3	
6152 C6	R3107 D3	R3241 C4	
6153 C6	R3108 C2	R3242 C5	
6161 A5	R3109 D3	R3243 C5	
6165 C5	R3110 F6	R3244 B6	
6166 D4	R3112 D3	R3245 B5	
6168 F7	R3119 D2	R3246 A6	
6169 F7	R3120 C2	R3247 A6	
6310 B3	R3121 D3	R3250 E4	
6311 B3	R3122 B5	R3251 E4	
C2101 C2	R3123 B4	R3254 E4	
C2102 C2	R3124 B5	R3255 F4	
C2104 D2	R3125 B5	R3256 E4	
C2105 B7	R3126 B5	R3257 C3	
C2106 A7	R3127 B5	R3258 C3	
C2108 E5	R3128 B4	R3259 B3	
C2110 D4	R3129 B5	R3260 B3	
C2111 E4	R3130 C5	R3261 E4	
C2112 E4	R3133 D3	R3262 E4	

1157 X 2404

1	GND
2	GND
3	GND
4	GND
5	5,0 V
6	5,0 V
7	GND
8	4,8 V

1158 X 2404

1	GND
2	GND
3	GND
4	GND
5	4,7 V
6	4,8 V
7	GND
8	4,8 V

6108 TDA 1516 Q

1	2,1 V
2	2,1 V
3	GND
4	2,1 V
5	6,9 V
6	14,4 V
7	GND
8	14,4 V
9	6,9 V
10	14,4 V
11	14,4 V
12	6,9 V
13	2,1 V

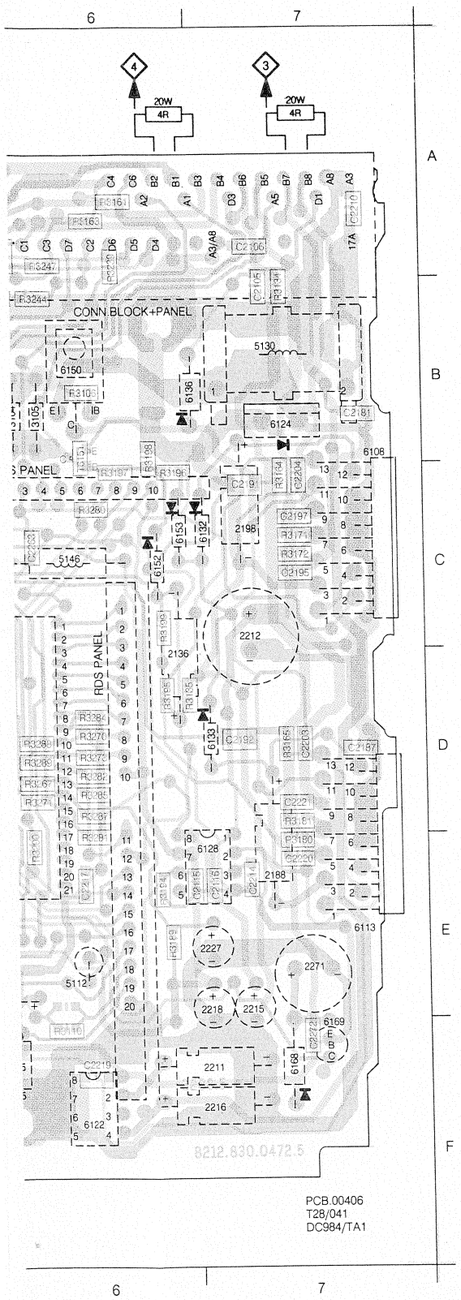
6109 TDA 1516 Q

see 6108

6112 TEA 6300

1	5 V
2	GND
3	4,3 V
4	4,3 V
5	4,3 V
6	4,3 V
7	4,3 V
8	4,3 V
9	GND
10	4,3 V
11	8,6 V
12	4,3 V
13	4,3 V
14	4,3 V
15	4,3 V
16	4,3 V
17	4,3 V
18	GND
19	4,3 V
20	4,3 V
21	4,3 V
22	4,3 V
23	4,3 V
24	4,3 V
25	4,3 V
26	4,3 V
27	8,5 V
28	5,0 V

18b



1155	E3	C2113	E5	R3134	B7	R3264	E4
1157	E5	C2114	C2	R3135	D6	R3266	D5
1158	F4	C2115	E7	R3140	C4	R3267	D6
1163	D5	C2116	E7	R3141	C4	R3268	E4
1164	E2	C2117	C1	R3142	E4	R3270	D6
1165	D5	C2118	A1	R3146	C4	R3271	D6
2136	D6	C2119	D2	R3148	B2	R3272	E4
2160	F3	C2120	D2	R3149	E3	R3273	D6
2162	B3	C2121	D2	R3150	E4	R3277	D5
2168	F2	C2122	D2	R3151	E3	R3278	E4
2169	D1	C2130	C4	R3154	B2	R3280	C6
2175	B3	C2131	C4	R3155	B1	R3281	E6
2176	B4	C2132	C4	R3157	B4	R3282	D6
2180	C5	C2133	C4	R3158	C5	R3283	D5
2183	B5	C2137	B1	R3159	B5	R3284	D6
2184	B5	C2161	E3	R3160	D4	R3285	D6
2188	E7	C2163	D3	R3161	A6	R3286	E4
2190	E1	C2164	D4	R3163	A6	R3287	D6
2196	C1	C2165	E4	R3164	C7	R3288	D6
2198	C7	C2173	C4	R3165	D7	R3289	D6
2199	C4	C2174	C4	R3166	D1	R3290	E6
2200	C3	C2177	B4	R3167	E1	R3291	D5
2201	C5	C2178	B4	R3168	C5	R3292	D5
2202	C5	C2179	C4	R3169	B5	R3293	E5
2207	F1	C2181	B7	R3170	B5	R3294	E5
2208	F1	C2182	D1	R3171	C7	R3295	D4
2211	F7	C2185	C1	R3172	C7	R3296	D4
2212	C7	C2186	C1	R3173	C5	R3297	E4
2215	E7	C2187	D7	R3174	C5	R3298	E4
2216	F7	C2189	E1	R3175	B5	R3299	E4
2218	E7	C2191	C7	R3176	B4	R3301	A2
2225	F5	C2192	D7	R3177	C3	R3302	A2
2226	E5	C2193	D1	R3178	C5	R3303	A2
2227	E7	C2194	E1	R3179	C5	R3305	B2
2250	E3	C2195	C7	R3180	E7	R3306	B3
2254	B5	C2197	C7	R3181	D7	R3310	B3
2257	A4	C2203	D7	R3182	E1	R3311	B4
2258	B4	C2204	C7	R3183	E1	R3315	D2
2259	B4	C2205	D1	R3186	C1	R3534	B1
2268	B5	C2206	E1	R3187	C1	R3535	B1
2271	E7	C2210	A7	R3189	E6	T6102	C3
2277	F5	C2214	E7	R3194	E6	T6103	C4
2281	B5	C2217	E6	R3195	D6	T6105	C5
3103	B5	C2219	F6	R3196	C6	T6106	C5
3104	B6	C2220	E7	R3197	C6	T6110	E2
3105	B6	C2221	D7	R3198	B6	T6115	B5
3111	D3	C2222	E1	R3199	C6	T6116	A4
3113	D3	C2223	E1	R3206	B4	T6117	C5
3132	D3	C2224	F5	R3207	B4	T6118	B4
3156	B3	C2228	C4	R3208	B3	T6120	D5
5105	D2	C2229	C4	R3209	B4	T6140	D3
5112	E6	C2230	C5	R3210	E5	T6141	C3
5130	B7	C2231	C5	R3211	D5	T6142	C3
5145	E5	C2235	F1	R3214	D4	T6151	B6
5146	C6	C2236	E5	R3215	D4		
6104	C2	C2251	B4	R3216	D4		
6108	B7	C2255	D4	R3217	D4		
6109	C1	C2261	D4	R3220	C4		
6112	B4	C2262	D5	R3221	C4		
6113	E7	C2263	C6	R3222	D3		
6114	D1	C2264	D5	R3223	D3		
6119	F2	C2265	D5	R3224	D2		
6122	F6	C2266	B5	R3225	C3		
6124	B7	C2267	B5	R3226	C3		
6125	F5	C2269	B5	R3227	C3		
6128	E7	C2270	F5	R3228	D3		
6132	C7	C2272	F7	R3229	C2		
6133	D7	C2273	C4	R3231	E2		
6134	E2	C2274	C4	R3232	E2		
6135	E1	C2275	D5	R3234	E2		
6136	B7	C2276	D4	R3235	E2		
6137	E2	C2301	B2	R3236	D3		
6138	E2	C2302	B2	R3237	A3		
6139	E2	C2303	B2	R3238	B5		
6143	D4	R3101	C2	R3239	A6		
6150	B6	R3106	B6	R3240	C3		
6152	C6	R3107	D3	R3241	C4		
6153	C6	R3108	C2	R3242	C5		
6161	A5	R3109	D3	R3243	C5		
6165	C5	R3110	F6	R3244	B6		
6166	D4	R3112	D3	R3245	B5		
6168	F7	R3119	D2	R3246	A6		
6169	F7	R3120	C2	R3247	A6		
6310	B3	R3121	D3	R3250	E4		
6311	B3	R3122	B5	R3251	E4		
C2101	C2	R3123	B4	R3254	E4		
C2102	C2	R3124	B5	R3255	F4		
C2104	D2	R3125	B5	R3256	E4		
C2105	B7	R3126	B5	R3257	C3		
C2106	A7	R3127	B5	R3258	C3		
C2108	E5	R3128	B4	R3259	B3		
C2110	D4	R3129	B5	R3260	B3		
C2111	E4	R3130	C5	R3261	E4		
C2112	E4	R3133	D3	R3262	E4		

18c

1157 X 2404

1	GND
2	GND
3	GND
4	GND
5	5,0 V
6	5,0 V
7	GND
8	4,8 V

1158 X 2404

1	GND
2	GND
3	GND
4	GND
5	4,7 V
6	4,8 V
7	GND
8	4,8 V

6108 TDA 1516 Q

1	2,1 V
2	2,1 V
3	GND
4	2,1 V
5	6,9 V
6	14,4 V
7	GND
8	14,4 V
9	6,9 V
10	14,4 V
11	14,4 V
12	6,9 V
13	2,1 V

6109 TDA 1516 Q

see 6108

6112 TEA 6300

1	5 V
2	GND
3	4,3 V
4	4,3 V
5	4,3 V
6	4,3 V
7	4,3 V
8	4,3 V
9	GND
10	4,3 V
11	8,6 V
12	4,3 V
13	4,3 V
14	4,3 V
15	4,3 V
16	4,3 V
17	4,3 V
18	GND
19	4,3 V
20	4,3 V
21	4,3 V
22	4,3 V
23	4,3 V
24	4,3 V
25	4,3 V
26	4,3 V
27	8,5 V
28	5,0 V

6113 TDA 1516 Q

see 6108

6114 TDA 1516 Q

see 6108

6115 BFS 19

B	3,0 V
E	2,3 V
C	6,2 V

6116 BFS 19

B	3,0 V
E	2,3 V
C	6,2 V

6117 BC 857

B	6,2 V
E	7,1 V
C	3,0 V

6118 BC 857

B	6,2 V
E	7,1 V
C	3,0 V

6119 MC78LO5ACP

1	14,5 V
2	2,5 V
3	n.c.
4	8,5 V
5	GND
6	GND
7	GND
8	GND

6120 BC 847

B	0 V
E	0 V
C	5,0 V

6122 L4916

1	14,4 V
2	2,5 V
3	n.c.
4	8,5 V
5	0 V
6	0 V
7	0 V
8	0 V

6125 L4916

1	14,4 V
2	2,5 V
3	n.c.
4	8,5 V
5	0 V
6	0 V
7	0 V
8	0 V

6128 L4904

1	15,4 V
2	8,5 V
3	5,5 V
4	GND
5	n.c.
6	4,2 V
7	5,0 V
8	5,0V

6150 BD 438

B	13,6 V
E	14,4 V
C	14,4 V

6151 BC 847

B	0,8 V
E	14,4 V
C	14,4 V

6165 TMP47P800N

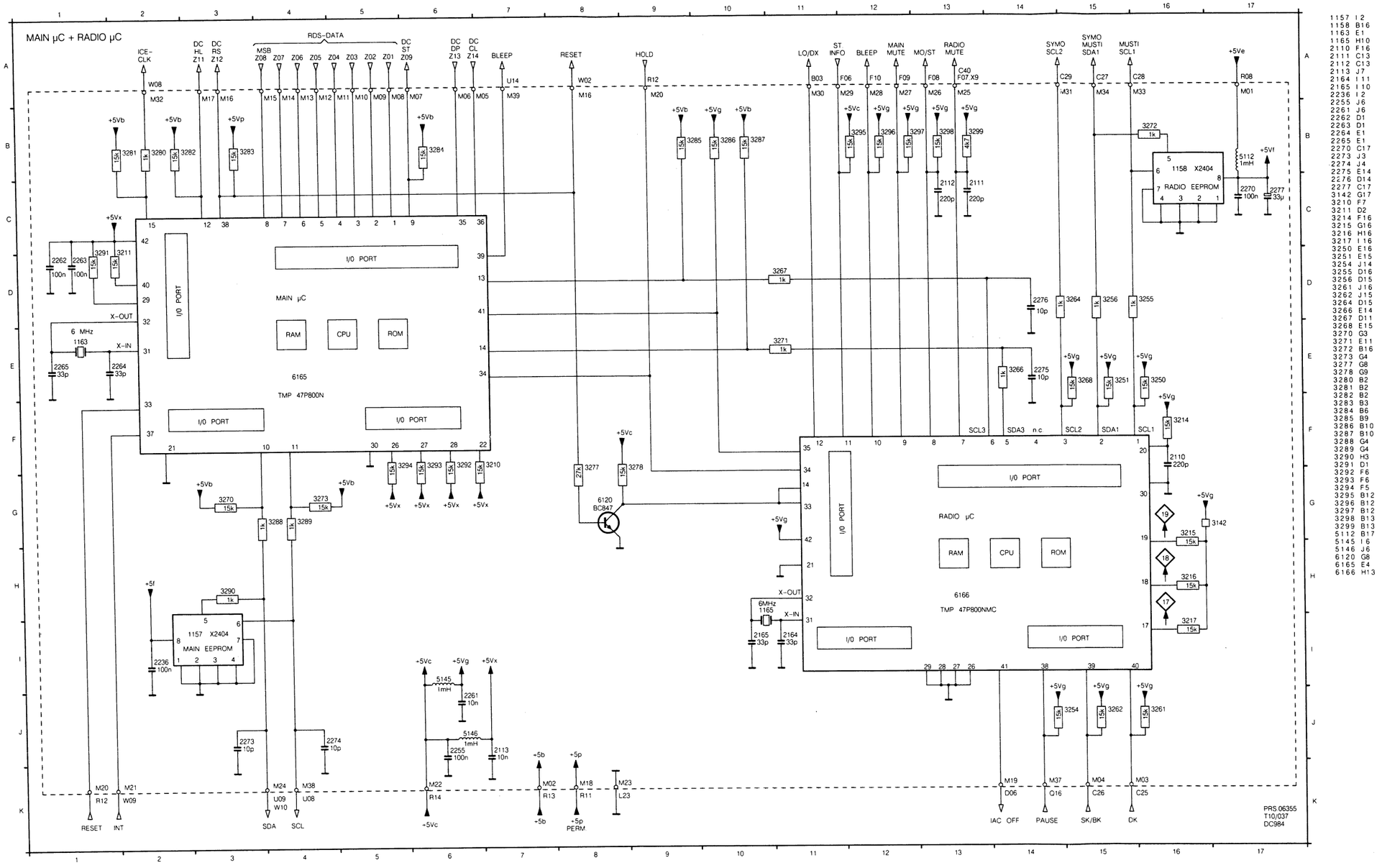
1	
2	
3	
4	
5	
6	
7	
8	
9	4,8 V (RDS on) 0 V (RDS off)
10	5,0 V
11	5,0 V
12	5,0 V
13	5,0 V
14	5,0 V
15	5,0 V
16	n.c.
17	n.c.
18	n.c.
19	n.c.
20	n.c.
21	GND
22	5,0 V
23	n.c.
24	n.c.
25	n.c.
26	5,0 V
27	5,0 V
28	5,0 V
29	5,0 V
30	GND
31	2,1 V , 6 MHz
32	2,4 V , 6 MHz
33	4,2 V
34	4,2 V
35	4,8 V
36	4,8 V
37	5,0 V
38	0 V
39	0 V
40	0 V
41	5,0 V
42	5,0 V

6166 TMP47P800N

1	5,0 V
2	5,0 V
3	5,0 V
4	0 V
5	5,0 V
6	5,0 V
7	0 V
8	4,3 V Mono 0 V Stereo
9	5,0 V
10	n.c.
11	0,5 V FM 5,0 V Info search 5,0 V AM
12	0 V
13	n.c.
14	5,0 V
15	n.c.
16	n.c.
17	5,0 V
18	5,0 V
19	5,0 V
20	0 V
21	GND
22	n.c.
23	n.c.
24	n.c.
25	n.c.
26 - 30	GND
31	2,2 V
32	2,4 V
33	5,0 V
34	4,2 V
35	5,0 V
36	n.c.
37	n.c.
38	5,0 V
39	0 V 5,0 V SK / BK
40	0 V 5,0 V DK
41	0 V
42	5,0 V

6169 MC78L05ACP

B	GND
E	14,4 V
C	5 V



1157 I 2
1158 B16
1163 E1
1165 H10
2110 F16
2111 C13
2112 C13
2113 J7
2164 I 11
2165 I 10
2236 I 2
2255 J6
2261 J6
2262 D1
2263 D1
2264 E1
2265 E1
2270 C17
2273 J3
2274 J4
2275 E14
2276 D14
2277 C17
3142 G17
3210 F7
3211 D2
3214 F16
3215 G16
3216 H16
3217 I 16
3250 E16
3251 E15
3254 J14
3255 D16
3256 D15
3261 J16
3262 J15
3264 D15
3266 E14
3267 D11
3268 E15
3270 G3
3271 E11
3272 B16
3273 G4
3277 G8
3278 G9
3280 B2
3281 B2
3282 B2
3283 B3
3284 B6
3285 B9
3286 B10
3287 B10
3288 G4
3289 G4
3290 H3
3291 D1
3292 F6
3293 F6
3294 F5
3295 B12
3296 B12
3297 B12
3298 B13
3299 B13
5112 B17
5145 I 6
5146 J6
6120 G8
6165 E4
6166 H13

1157 X 2404

1	GND
2	GND
3	GND
4	GND
5	5,0 V
6	5,0 V
7	GND
8	4,8 V

1158 X 2404

1	GND
2	GND
3	GND
4	GND
5	4,7 V
6	4,8 V
7	GND
8	4,8 V

6120 BC847

B	0 V
E	0 V
C	5,0 V

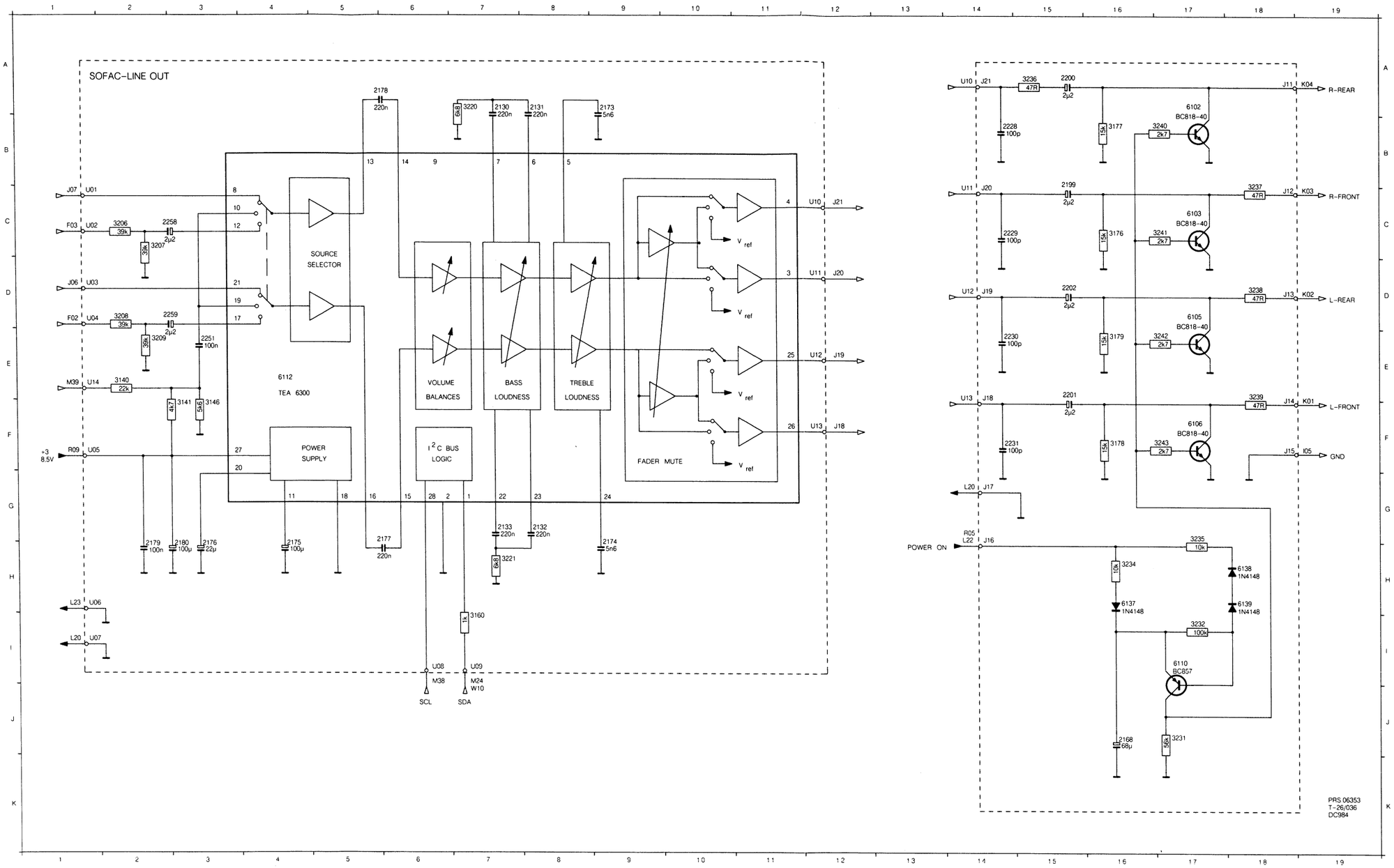
6165 TMP47P800N

1 - 8 ⎍⎍

9	4,8 V (RDS on)
	0 V (RDS off)
10	5,0 V
11	5,0 V
12	5,0 V
13	5,0 V
14	5,0 V
15	5,0 V
16	n.c.
17	n.c.
18	n.c.
19	n.c.
20	n.c.
21	GND
22	5,0 V
23	n.c.
24	n.c.
25	n.c.
26	5,0 V
27	5,0 V
28	5,0 V
29	5,0 V
30	GND
31	2,1 V , 6 MHz
32	2,4 V , 6 MHz
33	4,2 V
34	4,2 V
35	4,8 V
36	4,8 V
37	5,0 V
38	0 V
39	0 V
40	0 V
41	5,0 V
42	5,0 V

6166 TMP47P800N

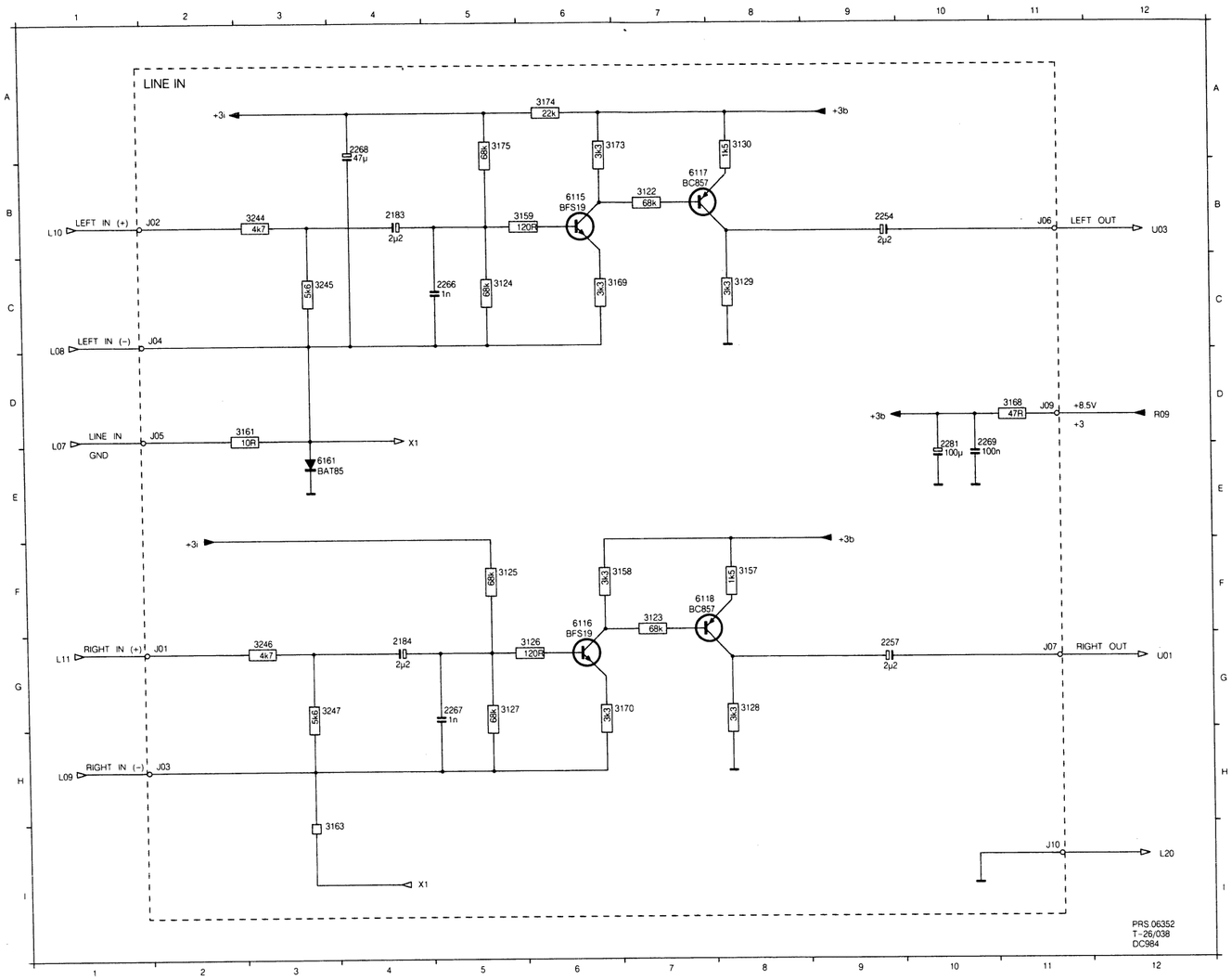
1	5,0 V
2	5,0 V
3	5,0 V
4	0 V
5	5,0 V
6	5,0 V
7	0 V
8	4,3 V Mono
	0 V Stereo
9	5,0 V
10	n.c.
11	0,5 V FM
	5,0 V Info search
	5,0 V AM
12	0 V
13	n.c.
14	5,0 V
15	n.c.
16	n.c.
17	5,0 V
18	5,0 V
19	5,0 V
20	0 V
21	GND
22	n.c.
23	n.c.
24	n.c.
25	n.c.
26 - 30	GND
31	2,2 V
32	2,4 V
33	5,0 V
34	4,2 V
35	5,0 V
36	n.c.
37	n.c.
38	5,0 V
39	0 V
	5,0 V SK / BK
40	0 V
	5,0 V DK
41	0 V
42	5,0 V



2130	A7	
2131	A8	
2132	G8	
2133	G7	
2168	J16	
2173	A9	
2174	H9	
2175	H4	
2176	H3	
2177	H6	
2178	A6	
2179	H2	
2180	H3	
2199	B15	
2200	A15	
2201	E15	
2202	D15	
2228	B14	
2229	C14	
2230	E14	
2231	F14	
2251	E3	
2258	C3	
2259	D3	
3140	E2	
3141	F3	
3146	F3	
3160	I7	
3176	C16	
3177	B16	
3178	F16	
3179	E16	
3206	C2	
3207	C2	
3208	D2	
3209	E2	
3220	A7	
3221	H7	
3231	J17	
3232	I17	
3234	H16	
3235	G17	
3236	A15	
3237	C18	
3238	D18	
3239	E18	
3240	B17	
3241	C17	
3242	E17	
3243	F17	
6102	A17	
6103	C17	
6105	D17	
6106	F17	
6110	I17	
6137	H16	
6138	H18	
6139	H18	

6112 TEA 6300

1	5 V
2	GND
3	4,3 V
4	4,3 V
5	4,3 V
6	4,3 V
7	4,3 V
8	4,3 V
9	GND
10	4,3 V
11	8,6 V
12	4,3 V
13	4,3 V
14	4,3 V
15	4,3 V
16	4,3 V
17	4,3 V
18	GND
19	4,3 V
20	4,3 V
21	4,3 V
22	4,3 V
23	4,3 V
24	4,3 V
25	4,3 V
26	4,3 V
27	8,5 V
28	5,0 V



2183 B4
2184 G4
2254 B9
2257 G9
2266 C5
2267 G5
2268 A4
2269 E10
2281 E10
3122 B7
3123 F7
3124 C5
3125 F5
3126 G6
3127 G5
3128 G8
3129 C8
3130 A8
3157 F8
3158 F6
3159 B6
3161 D3
3168 D11
3169 C6
3170 G6
3173 A6
3174 A6
3175 A5
3244 B3
3245 C3
3246 G3
3247 G3
6115 B6
6116 F6
6117 B7
6118 F7
6161 E3

6115 BFS 19

B 3,0 V
E 2,3 V
C 6,2 V

6116 BFS 19

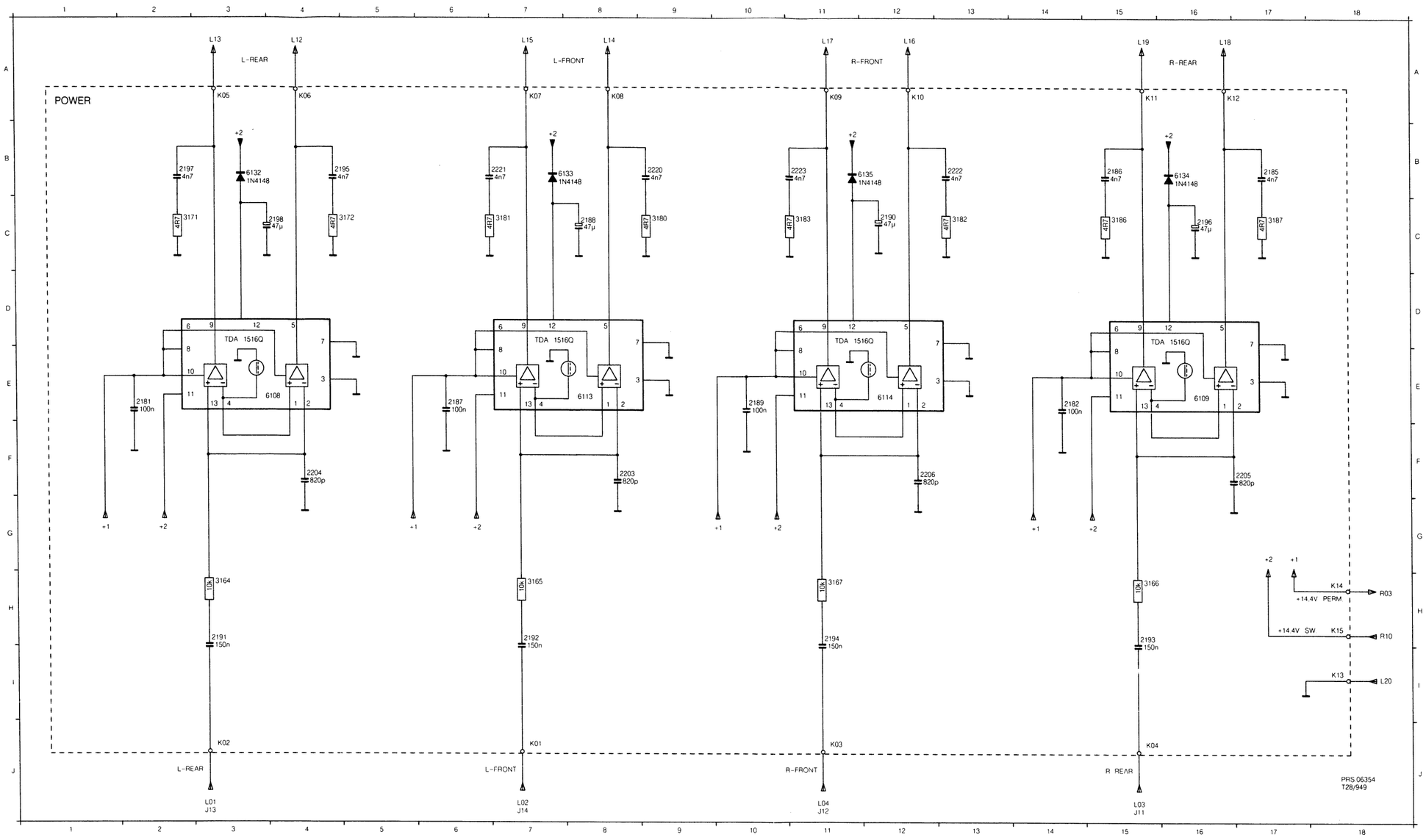
B 3,0 V
E 2,3 V
C 6,2 V

6117 BC 857

B 6,2 V
E 7,1 V
C 3,0 V

6118 BC 857

B 6,2 V
E 7,1 V
C 3,0 V



2181 E2
2182 E14
2185 B17
2186 B15
2187 E6
2188 C8
2189 E10
2190 C12
2191 H3
2192 H7
2193 H15
2194 H11
2195 B4
2196 C16
2197 B2
2198 C4
2203 F8
2204 F4
2205 F17
2206 F12
2220 B9
2221 B7
2222 B13
2223 B11
3164 H3
3165 H7
3166 H15
3167 H11
3171 C2
3172 C4
3180 C9
3181 C7
3182 C13
3183 C11
3186 C15
3187 C17
6132 B3
6133 B7
6134 B16
6135 B11

6108 TDA 1516 Q

1 2,1 V
2 2,1 V
3 GND
4 2,1 V
5 6,9 V
6 14,4 V
7 GND
8 14,4 V
9 6,9 V
10 14,4 V
11 14,4 V
12 6,9 V
13 2,1 V

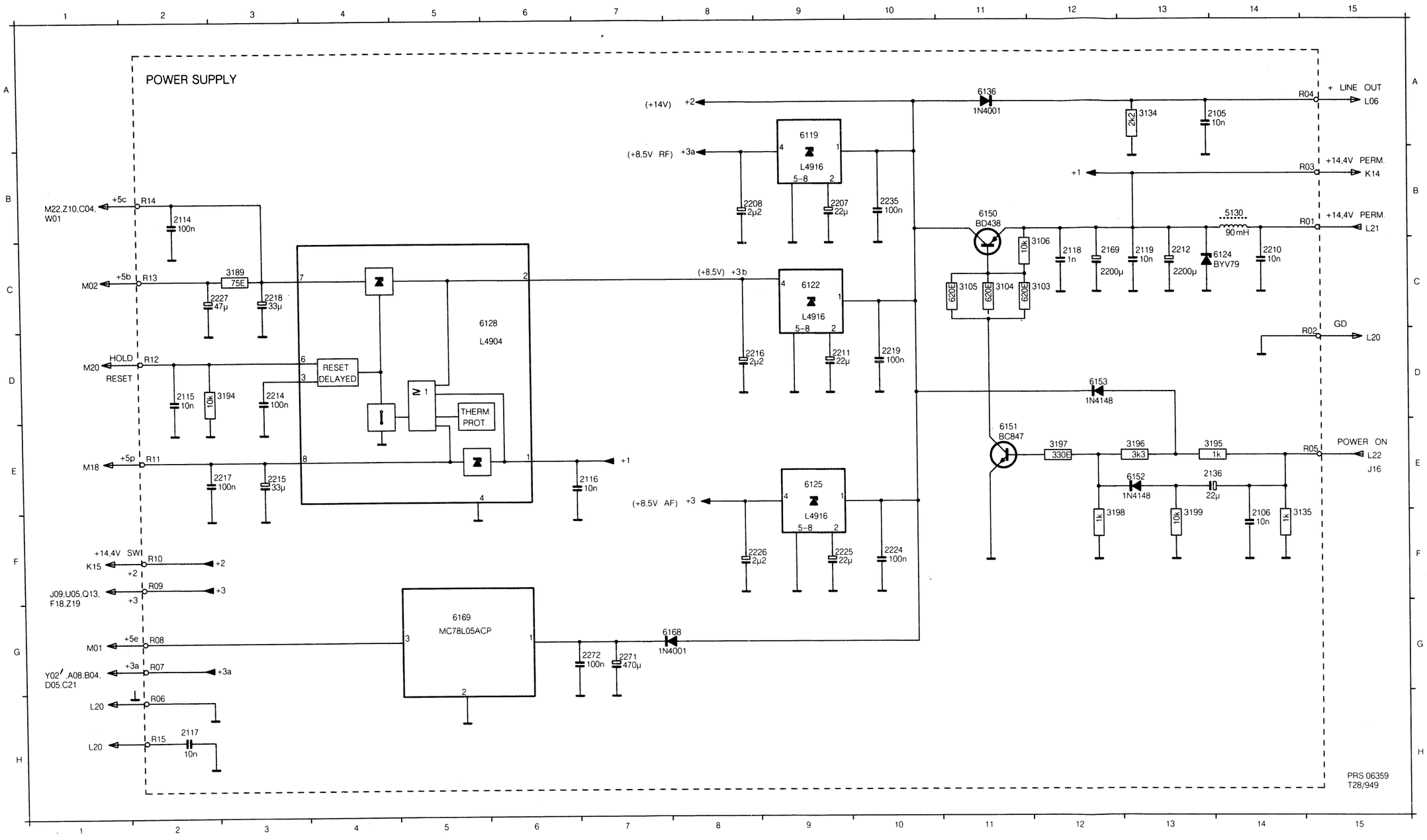
6109 TDA 1516 Q
see 6108

6113 TDA 1516 Q
see 6108

6114 TDA 1516 Q
see 6108

23a

23b



2105 A13
2106 F14
2114 B2
2115 D2
2116 E7
2117 H2
2118 C12
2119 C13
2136 E14
2169 C12
2207 B9
2208 B8
2210 C14
2211 D9
2212 C13
2214 D3
2215 E3
2216 D8
2217 E2
2218 C3
2219 D10
2224 F10
2225 F9
2226 F8
2227 C2
2235 B10
2271 G7
2272 G7
3103 C12
3104 C11
3105 C11
3106 C12
3134 A13
3135 F14
3189 C3
3194 D3
3195 E14
3196 E13
3197 E12
3198 F12
3199 F13
5130 B14
6119 A9
6122 C9
6124 C14
6125 E9
6128 C5
6136 A11
6150 B11
6151 E11
6152 E13
6153 D12
6168 G8
6169 G5

6119 MC78LO5ACP

1	14,5 V
2	2,5 V
3	n.c.
4	8,5 V
5	GND
6	GND
7	GND
8	GND

6122 L4916

1	14,4 V
2	2,5 V
3	n.c.
4	8,5 V
5	0 V
6	0 V
7	0 V
8	0 V

6128 L4904

1	15,4 V
2	8,5 V
3	5,5 V
4	GND
5	n.c.
6	4,2 V
7	5,0 V
8	5,0V

6125 L4916

1	14,4 V
2	2,5 V
3	n.c.
4	8,5 V
5	0 V
6	0 V
7	0 V
8	0 V

6150 BD 438

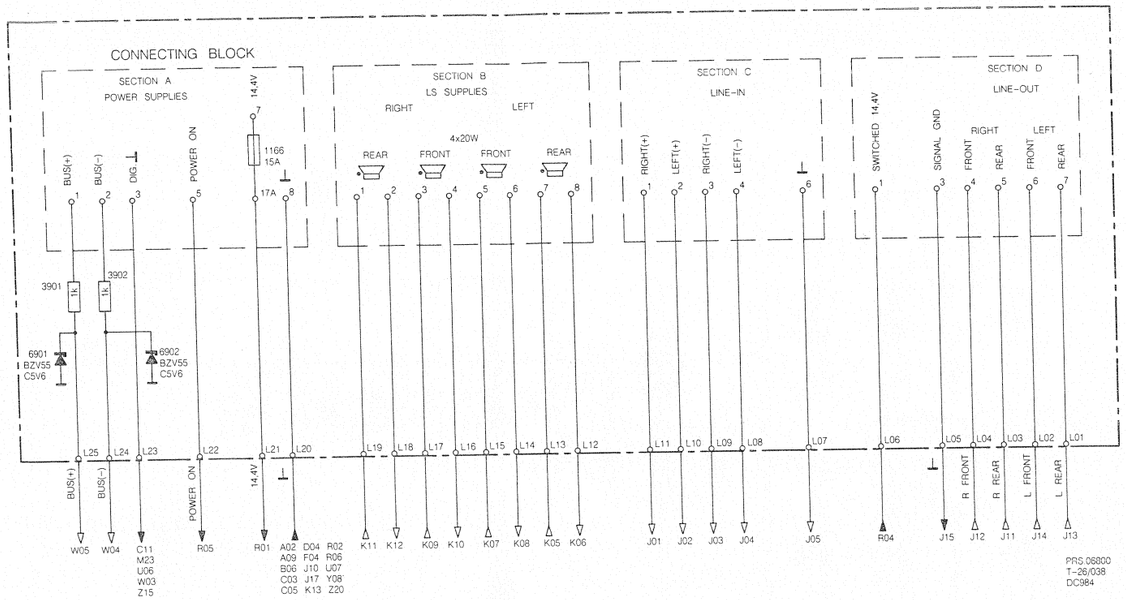
B	13,6 V
E	14,4 V
C	14,4 V

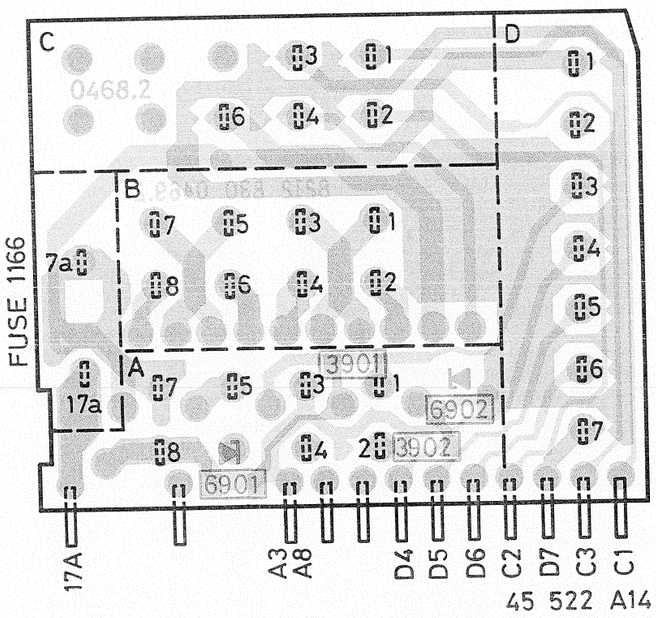
6151 BC 847

B	0,8 V
E	14,4 V
C	14,4 V

6169 MC78L05ACP

B	GND
E	14,4 V
C	5 V

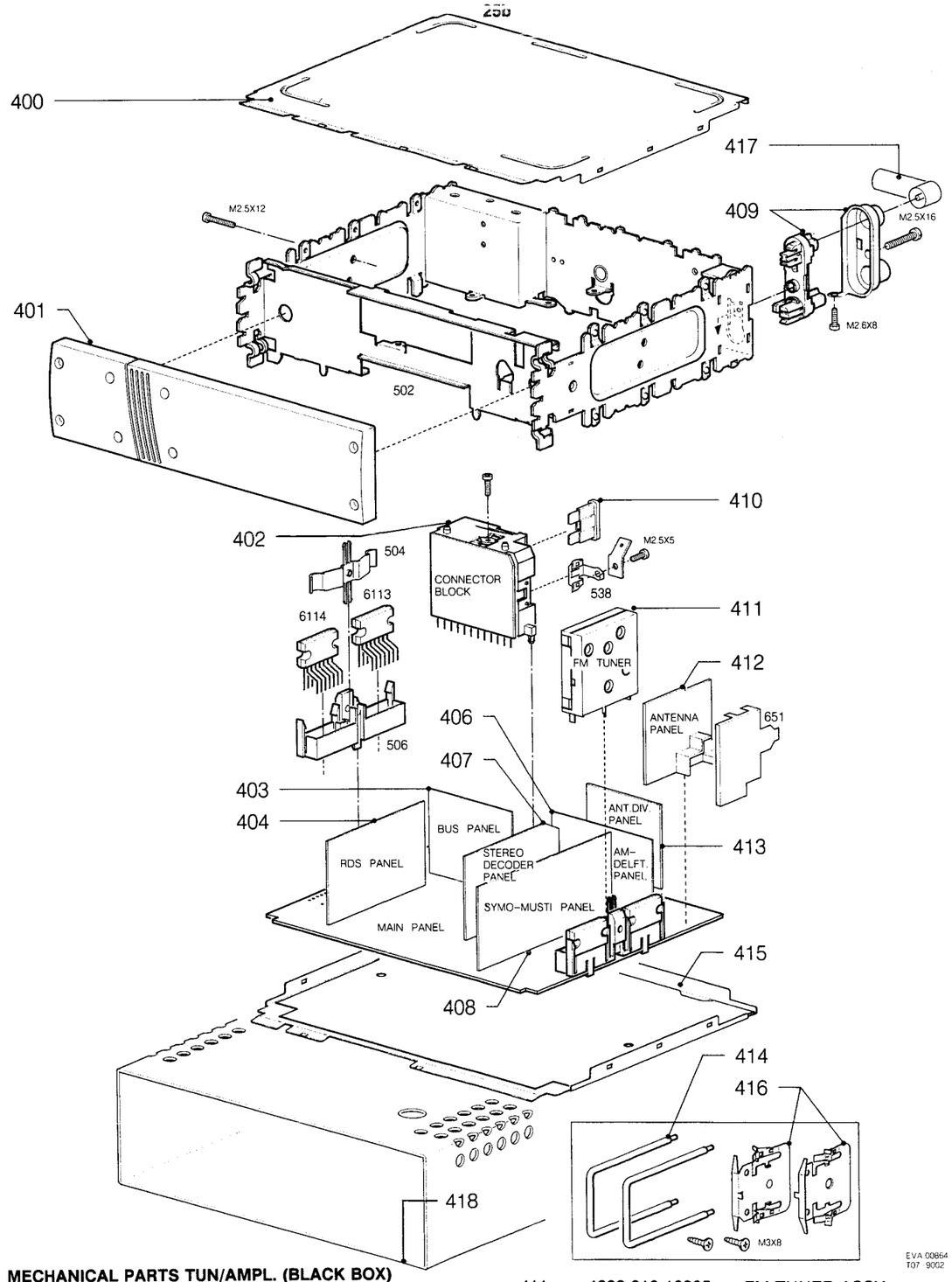




Check	SK				Setting of controls		
FM-Mute	FM	94MHz, 1mV	A			③ 0 dB (775mV)	
		no signal				③ -18 dB - -24 dB	
26 dB - SNR	FM	94 MHz, 6 uV △f = 22,5 kHz f mode = 1 kHz	A			③ 0 dB (775 mV)	
		94 MHz, 6 uV without mod.				③ ≧ 26 dB	
	MW	990 kHz, 120 uV 1 kHz, 30 % AM	B			③ 0 dB (775 mV)	
		990 kHz, 120 uV without mod.				③ ≧ 26 dB	
	LW	198 kHz, 160 uV 1 kHz, 30 % AM	B			③ 0 dB (775 mV)	
		198 kHz, 160 uV without mod.				③ ≧ 26 dB	
	SW	6100 kHz, 100 uV 1 kHz, 30 % AM	B			③ 0 dB (775 mV)	
		6100 kHz, 100 uV without mod.				③ ≧ 26 dB	
Demodulated FM-levels	FM	94 MHz, 1 mV △ f = 22,5 kHz f mod. = 19 kHz	A			⑦ 150 mV +/- 1 dB	
		94 MHz, 1 mV f = 6,75 kHz f mod. = 19 kHz				⑦ 50 mV +/- 1 dB	
		94 MHz, 1mV △f = 3,75 kHz f mod. = 57 kHz	A			⑦ 20 mV +/- 1 dB	
Demodulated AM-levels	MW	990 kHz, 1 mV 1 kHz, 30 % AM	B			⑩ 350 mV +/- 1 dB	
VC - FM	FM			87,5 MHz		⑫ ≧ 1,0 V - DC	
				108 MHz		⑫ ≦ 6,0 V - DC	
VC - AM	LW			144 kHz		⑪ ≧ 0,8V - DC	
	SW			6200 kHz		⑪ ≦ 6,0 V - DC	
I. A. C.	FM	τ = 10 usec T = 300 usec Vp = 60 mV	C				⑨ 25 - 50 usec
SDK-sensivity	FM + info	94 MHz, 20 uV △f= 22,5 kHz f mod. = 1 kHz +SK +BK +DK	A		min.	**INFO SK** in display + DK signal ③	

Adjustment	SK	⊛→	◇	▭	∠	▭
FM search sensitivity	FM	94 MHz 120 uV	A	▭	3113	◇5 3,1 V ◇17 0 V ◇18 0 V ◇19 5 V
α- 3 dB	FM	94 MHz 1 mV mod. 400 Hz △f = 22,5 kHz	A	▭	◺	◇3 0 dB (775 mV)
		94 MHz 15 uV mod. 400 Hz △f= 22,5 kHz	A	▭	3156	◇3 - 3 dB
SDS 10 dB Crosstalk	FM	94 MHz 1 mV mod. 1 kHz △f = 22,5 kHz Stereo	A	▭	◺ ◹ ◺ 3132	◇3 Max -30 dB ◇4
		94 MHz 250 uV mod. 1 kHz △f = 22,5 kHz Stereo - R	A	▭	3132	◇4 (R) - ◇3 (L) 20 dB
AM search sensitivity	AM	990 kHz 700 uV	B	▭	3111	◇6 3,1 V ◇17 0 V ◇18 0 V ◇19 5 V
Quadratur Detector	FM	94 MHz 10 uV mod. 1 kHz △f = 75 kHz	A	▭	5105	◇7 – ◇8 0 +/- 100 mV

Dolby-level alignment:see page 8b



EVA 00864
T07 9002

MECHANICAL PARTS TUN/AMPL. (BLACK BOX)

400	4822 423 90134	TOP COVER
401	4822 423 50983	FRONT COVER
402	4822 267 50948	SLIDE IN CONN ASSY
403	4822 214 51781	BUS PANEL ASSY
404	4822 214 51783	RDS PANEL ASSY
406	4822 214 51778	AM DELFT PANEL ASSY
407	4822 214 51777	STEREO DECODER ASSY
408	4822 214 51782	SYMO-MUSTI-IAC PANEL
409	4822 267 31028	AERIAL BUSH
410	4822 252 51113	FUSE 16A
411	4822 210 10305	FM TUNER ASSY
412	4822 214 51792	AERIAL PANEL ASSY
413	4822 214 51778	ANT DIV PANEL ASSY
414	4822 404 20437	DEMOUNTING BRACKETS
415	4822 423 90133	BOTTOM COVER
416	4822 492 63822	MOUNTING SPRING
417	4822 267 31164	AERIAL ADAPTER
418	4822 691 10286	UNIVERSAL SLEEVE
	4822 218 10336	TUNER/AMP COMPLETE

2101	4822 122 33343	22nF 10% X7R 63V
2102	4822 122 33177	10nF 20% X7R 50V
2104	4822 122 33336	8.2nF 10%
2105	4822 122 32442	10nF 50V
2106	4822 122 32442	10nF 50V
2110	4822 122 33216	270pF 5% NP0 50V
2111	4822 122 33216	270pF 5% NP0 50V
2112	4822 122 33216	270pF 5% NP0 50V
2113	4822 122 33177	10nF 20% XR7 50V
2120	4822 122 33515	82pF 5% NP0 63V
2121	4822 122 33514	68pF 5% NP0 50V
2122	4822 122 33633	82pF 5% N750 63V
2130	4822 122 32916	220nF 10% XR7 63V
2131	4822 122 32916	220nF 10% XR7 63V
2132	4822 122 32916	220nF 10% XR7 63V
2133	4822 122 32916	220nF 10% XR7 63V
2136	4822 124 20698	22µF 50% 25V
2137	4822 122 33343	22nF 10% X7R 63V
2160	4822 124 20688	33µF 50% 16V
2161	4822 122 32916	220nF 10% X7R 63V
2162	4822 124 40244	2.2µF 20% 63V
2163	5322 122 32531	100pF 5% NP0 50V
2164	4822 122 33215	33pF 5% NP0
2165	4822 122 33215	33pF 5% NP0
2168	4822 124 20689	68µF 50% 16V
2169	4822 124 22412	2200µF 20% 16V
2170	4822 122 33342	33nF 10% X7R 63V
2171	4822 122 33342	33nF 10% X7R 63V
2173	4822 122 33221	5.6nF 10% X7R
2174	4822 122 33221	5.6nF 10% X7R
2175	5322 124 21762	100µF 20% 10V
2176	4822 124 20698	22µF 50% 25V
2177	4822 122 32916	220nF 10% X7R 63V
2178	4822 122 32916	220nF 10% X7R 63V
2179	4822 122 33236	100nF
2180	5322 124 21762	100µF 20% 10V
2181	4822 122 33236	100nF
2182	4822 122 33236	100nF
2183	4822 124 40244	2,2µF 20% 63V
2184	4822 124 40244	2,2µF 20% 63V
2185	4822 122 33339	4.7nF 10% X7R 50V
2186	4822 122 33339	4.7nF 10% X7R 50V
2187	4822 122 33236	100nF
2188	4822 124 20678	47µF 50% 10V
2189	4822 122 33236	100nF
2190	4822 124 20678	47µF 50% 10V
2191	4822 122 33723	150nF 10% X7R 63V
2192	4822 122 33723	150nF 10% X7R 63V
2193	4822 122 33723	150nF 10% X7R 63V
2194	4822 122 33723	150nF 10% X7R 63V
2195	4822 122 33339	4.7nF 10% X7R 50V
2196	4822 124 20678	47µF 50% 10V
2197	4822 122 33339	4.7nF 10% X7R 50V
2198	4822 124 20678	47µF 50% 10V
2199	4822 124 20724	2.2µF 50% 63V
2200	4822 124 20724	2.2µF 50% 63V
2201	4822 124 40244	2.2µF 20% 63V
2202	4822 124 40244	2.2µF 20% 63V
2203	4822 122 33218	820pF 10% X7R
2204	4822 122 33218	820pF 10% X7R
2205	4822 122 33218	820pF 10% X7R
2206	4822 122 33218	820pF 10% X7R
2207	4822 124 20698	22µF 50% 25V
2208	4822 124 20724	2.2µF 50% 63V
2210	4822 122 32442	10nF 50V
2211	4822 124 20698	22µF 50% 25V

2212	4822 124 22412	2200µF 20% 16V
2214	4822 122 33236	100nF
2215	4822 124 40272	33µF 20% 16V
2216	4822 124 20724	2.2µF 50% 63V
2217	4822 122 33236	100nF
2218	4822 124 40272	33µF 20% 16V
2219	4822 122 33236	100nF
2220	4822 122 33339	4.7nF 10% X7R 50V
2221	4822 122 33339	4.7nF 10% X7R 50V
2222	4822 122 33339	4.7nF 10% X7R 50V
2223	4822 122 33339	4.7nF 10% X7R 50V
2224	4822 122 33236	100nF
2225	4822 124 20698	22µF 50% 25V
2226	4822 124 20724	2,2µF 50% 63V
2227	4822 124 40433	47µF 20% 25V
2228	5322 122 32531	100pF 5% NP0 50V
2229	5322 122 32531	100pF 5% NP0 50V
2230	5322 122 32531	100pF 5% NP0 50V
2231	5322 122 32531	100pF 5% NP0 50V
2235	4822 122 33236	100nF
2236	4822 122 33236	100nF
2250	4822 124 40178	100µF 20% 10V
2251	4822 122 33236	100nF
2254	4822 124 40244	2.2µF 20% 63V
2255	4822 122 33236	100nF
2257	4822 124 40244	2.2µF 20% 63V
2258	4822 124 40244	2.2µF 20% 63V
2259	4822 124 40244	2.2µF 20% 63V
2260	4822 122 33236	100nF
2261	4822 122 33177	10nF 20% X7R 50V
2262	4822 122 33236	100nF
2263	4822 122 33236	100nF
2264	4822 122 33215	33pF 5% NP0
2265	4822 122 33215	33pF 5% NP0
2266	4822 122 33178	1nF 20% X7R 50V
2267	4822 122 33178	1nF 20% X7R 50V
2268	4822 124 40433	47µF 20% 25V
2269	4822 122 33236	100nF
2270	4822 122 33236	100nF
2271	5322 124 40697	470µF 20% 16V
2272	4822 122 33236	100nF
2273	4822 122 33212	10pF
2274	4822 122 33212	10pF
2275	4822 122 33212	10pF
2276	4822 122 33212	10pF
2277	4822 124 40272	33µF 20% 16V
2281	4822 124 40178	100µF 20% 10V
2301	4822 122 33173	560pF 10% X7R 50V
2302	4822 122 33173	560pF 10% X7R 50V
2303	4822 122 33173	560pF 10% X7R 50V
2305	4822 122 30099	3.3nF 10% X7R 100V
2306	4822 124 20722	1µF 50% 63V
2307	4822 124 20722	1µF 50% 63V
2310	5322 121 42386	100nF 5% 63V
2312	5322 121 42386	100nF 5% 63V
2350	4822 122 31348	120pF 2% 100V
2351	4822 122 32185	10pF 2% 100V
2352	4822 122 32185	10pF 2% 100V
2354	4822 122 31316	100pF 2% 100V
2355	4822 122 31316	100pF 2% 100V
2401	4822 124 40244	2.2µF 20% 63V
2402	4822 124 40244	2.2µF 20% 63V
2403	4822 124 40433	47µF 20% 25V
2405	4822 122 33218	820pF
2406	4822 122 33236	100nF
2407	4822 122 32916	220nF 10% X7R 63V

2409	4822 122 32916	220nF 10% X7R 63V
2410	5322 122 33869	15pF 5% NP0 63V
2411	4822 122 33213	22pF
2530	4822 122 31797	22pF 10% X7R 63V
2539	4822 122 33546	4.7pF 5% NP0 63V
2540	5322 122 31647	1nF 10% X7R 63V
2541	4822 122 33212	10pF 5% NP0 50V
2542	4822 122 33215	33pF 5% NP0 50V
2543	4822 122 33514	68pF 5% NP0 50V
2544	4822 122 33515	82pF 5% NP0 63V
2545	4822 122 33336	8.2nF 10%
2546	4822 122 33236	100nF
2547	4822 122 33213	22pF 5% NP0 50V
2548	4822 122 33236	100nF
2549	4822 122 33339	4.7nF 10% X7R 50V
2550	4822 122 33176	2.7nF 20% X7R 50V
2551	4822 122 33342	33nF 10% X7R 63V
2552	4822 121 51354	1nF 10% 50V
2553	5322 122 31647	1nF 10% X7R 63V
2554	4822 124 20722	1µF 50% 63V
2555	4822 124 20688	33µF 50% 16V
2556	4822 122 32916	220nF 10% X7R 63V
2557	5322 124 21762	100µF 20% 10V
2558	4822 124 20678	47µF 50% 10V
2559	4822 122 33514	68pF 5% NP0 50V
2602	4822 124 22428	220µF 20% 10V
2603	4822 122 33543	15nF 10%
2604	4822 122 33543	15nF 10%
2605	4822 124 20688	33µF 50% 16V
2606	4822 124 22504	330µF 20% 10V
2609	4822 124 20688	33µF 50% 16V
2611	5322 122 31647	1nF 10% X7R 63V
2612	4822 122 33236	100nF
2613	4822 124 40243	1.5µF 20% 63V
2614	4822 122 31811	3.9nF 10% 50V
2615	4822 122 33236	100nF
2616	4822 124 40243	1.5µF 20% 63V
2617	4822 122 31811	3.9nF 10% 50V
2619	4822 122 33236	100nF
2620	4822 122 33236	100nF
2804	5322 121 42386	100nF 5% 63V
2805	4822 124 20688	33µF 50% 16V
2903	4822 122 33336	8.2nF 10%
2910	4822 122 32916	220nF 10% X7R 63V
2911	4822 124 40433	47µF 20% 25V
2912	4822 122 33236	100nF
2913	4822 124 20724	2.2µF 50% 63V
2914	4822 122 33343	22nF 10% X7R 63V
2916	4822 122 33336	8.2nF 10%
2917	4822 122 33344	47nF 20%
2919	4822 122 33344	47nF 20%
2920	4822 122 33236	100nF
2922	4822 122 33339	4.7nF 10% X7R 50V
2923	4822 124 20678	47µF 50% 10V
2924	4822 122 33283	150pF 5% NP0 50V
2925	4822 122 33283	150pF 5% NP0 50V
2926	4822 122 33343	22nF 10% X7R 63V
2927	4822 124 20689	68µF 50% 16V
2928	4822 124 20678	47µF 50% 10V
2929	4822 122 33343	22nF 10% X7R 63V
2930	4822 122 33283	150nF 5% NP0 50V
2931	4822 122 33177	10nF 20% X7R 50V
2932	4822 121 43711	470nF 10% 100V
2933	4822 122 33343	22nF 10% X7R 63V
2934	4822 122 32891	68nF 10% X7R 63V
2935	5322 122 31866	6.8nF 10% X7R 63V

2936	4822 122 33212	10pF
2937	4822 122 33212	10pF
2938	4822 122 33212	10pF
2940	4822 122 33343	22nF 10% X7R 63V

3101	4822 051 20103	10K 5% 0.1W
3103	4822 116 52227	620R 5% 0.5W
3104	4822 116 52227	620R 5% 0.5W
3105	4822 116 52227	620R 5% 0.5W
3106	4822 051 20103	10K 5% 0.1W
3107	4822 051 20103	10K 5% 0.1W
3108	4822 111 91499	270R 5% 0.06W
3109	4822 051 20103	10K 5% 0.1W
3111	4822 100 20166	Adj. potmeter 10K
3112	4822 051 20222	2.2K 5% 0.1W
3113	4822 100 20166	Adj. potmeter 10K
3119	4822 051 20221	220R 5% 0.1W
3120	4822 051 20104	100K 5% 0.1W
3121	5322 116 90218	8.2K 5% 0.06W
3122	4822 051 20683	68K 5% 0.1W
3123	4822 051 20683	68K 5% 0.1W
3124	4822 051 20683	68K 5% 0.1W
3125	4822 051 20683	68K 5% 0.1W
3126	4822 051 20121	120R 5% 0.1W
3127	4822 051 20683	68K 5% 0.1W
3128	4822 051 20332	3K3 5% 0.1W
3129	4822 051 20332	3K3 5% 0.1W
3130	4822 116 90338	1K5 5%
3132	4822 100 20166	Adj. potmeter 10K
3133	4822 051 20222	2K2 5% 0.1W
3134	4822 051 20222	2K2 5% 0.1W
3135	4822 051 20102	1K 5% 0.1W
3140	4822 051 20223	22K 5% 0.1W
3141	4822 051 20472	4K7 5% 0.1W
3142	4822 111 91536	JUMPER
3144	4822 111 91536	JUMPER
3146	4822 051 20562	5K6 5% 0.1W
3148	4822 051 20273	27K 5% 0.1W
3149	4822 111 91536	JUMPER
3150	4822 051 20109	10R 5% 0.1W
3151	4822 051 20624	620K
3154	4822 051 20102	1K 5% 0.1W
3155	4822 051 20102	1K 5% 0.1W
3156	4822 100 20166	Adj. potmeter 10K
3157	4822 116 90338	1K5 5%
3158	4822 051 20332	3K3 5% 0,1W
3159	4822 051 20121	120R 5% 0,1W
3160	4822 051 20102	1K 5% 0,1W
3161	4822 051 20109	10R 5% 0.1W
3163	4822 111 91536	JUMPER
3164	4822 051 20103	10K 5% 0.1W
3165	4822 051 20103	10K 5% 0.1W
3166	4822 051 20103	10K 5% 0.1W
3167	4822 051 20103	10K 5% 0.1W
3168	4822 051 20479	47R 5% 0.1W
3169	4822 051 20332	3K3 5% 0.1W
3170	4822 051 20332	3K3 5% 0.1W
3171	4822 116 80464	4R7 10% 0.6W
3172	4822 116 80464	4R7 10% 0.6W
3173	4822 051 20332	3K3 5% 0.1W
3174	4822 051 20223	22K 5% 0.1W
3175	4822 051 20683	68K 5% 0.1W
3176	4822 051 20153	15K 5% 0.1W
3177	4822 051 20153	15K 5% 0.1W

3178	4822 051 20153	15K 5% 0.1W
3179	4822 051 20153	15K 5% 0.1W
3180	4822 116 80464	4R7 10% 0.6W
3181	4822 116 80464	4R7 10% 0.6W
3182	4822 116 80464	4R7 10% 0.6W
3183	4822 116 80464	4R7 10% 0.6W
3186	4822 116 80464	4R7 10% 0.6W
3187	4822 116 80464	4R7 10% 0.6W
3189	4822 051 20759	75R 5% 0.1W
3194	4822 051 20103	10K 5% 0.1W
3195	4822 051 20102	1K 5% 0.1W
3196	4822 051 20332	3K3 5% 0.1W
3197	4822 051 20331	330R
3198	4822 051 20102	1K 5% 0.1W
3199	4822 051 20103	5K6 10% 0.1W
3206	4822 051 20393	39K 5% o.1W
3207	4822 051 20393	39K 5% 0.1W
3208	4822 051 20393	39K 5% 0.1W
3209	4822 051 20393	39K 5% 0.1W
3210	4822 051 20153	15K 5% 0.1W
3214	4822 051 20153	15K 5% 0.1W
3215	4822 051 20153	15K 5% 0.1W
3216	4822 051 20153	15K 5% 0.1W
3217	4822 051 20153	15K 5% 0.1W
3220	4822 116 90346	6K8 5% 0.1W
3221	4822 116 90346	6K8 5% 0.1W
3222	4822 051 20561	470R 5% 0.1W
3223	4822 051 20102	1K 5% 0.1W
3224	4822 051 20103	10K 5% 0.1W
3225	4822 051 20103	10K 5% 0.1W
3226	4822 051 20103	10K 5% 0.1W
3227	4822 051 20103	10K 5% 0.1W
3228	4822 051 20103	10K 5% 0.1W
3229	4822 051 20103	10K 5% 0.1W
3231	4822 051 20563	560K 5% 0.1W
3232	4822 051 20104	100K 5% 0.1W
3234	4822 051 20103	10K 5% 0.1W
3235	4822 051 20103	10K 5% 0.1W
3236	4822 051 20479	47R 5% 0.1W
3237	4822 051 20479	47R 5% 0.1W
3238	4822 051 20479	47R 5% 0.1W
3239	4822 051 20479	47R 5% 0.1W
3240	4822 051 20272	2K7 5% 0.1W
3241	4822 051 20272	2K7 5% 0.1W
3242	4822 051 20272	2K7 5% 0.1W
3243	4822 051 20272	2K7 5% 0.1W
3244	4822 051 20472	4K7 5% 0.1W
3245	4822 051 20562	5K6 5% 0.1W
3246	4822 051 20472	4K7 5% 0.1W
3247	4822 051 20562	5K6 5% 0.1W
3250	4822 051 20153	15K 5% 0.1W
3251	4822 051 20153	15K 5% 0.1W
3254	4822 051 20153	15K 5% 0.1W
3255	4822 051 20102	1K 5% 0.1W
3256	4822 051 20102	1K 5% 0.1W
3257	4822 051 20102	1K 5% 0.1W
3258	4822 051 20331	330R 5% 0.1W
3259	4822 051 20103	10K 5% 0.1W
3260	4822 051 20563	56K 5% 0.1W
3261	4822 051 20153	15K 5% 0.1W
3262	4822 051 20153	15K 5% 0.1W
3264	4822 051 20102	1K 5% 0.1W
3266	4822 051 20102	1K 5% 0.1W
3267	4822 051 20102	1K 5% 0.1W
3268	4822 051 20153	15K 5% 0.1W
3270	4822 051 20153	15K 5% 0.1W

3271	4822 051 20102	1K 5% 0.1W
3272	4822 051 20102	1K 5% 0.1W
3273	4822 051 20153	15K 5% 0.1W
3277	4822 051 20273	27K 5% 0.1W
3278	4822 051 20153	15K 5% 0.1W
3280	4822 051 20102	1K 5% 0.1W
3281	4822 051 20153	15K 5% 0.1W
3282	4822 051 20153	15K 5% 0.1W
3283	4822 051 20153	15K 5% 0.1W
3284	4822 051 20153	15K 5% 0.1W
3285	4822 051 20153	15K 5% 0.1W
3286	4822 051 20153	15K 5% 0.1W
3287	4822 051 20153	15K 5% 0.1W
3288	4822 051 20102	1K 5% 0.1W
3289	4822 051 20102	1K 5% 0.1W
3290	4822 051 20102	1K 5% 0.1W
3291	4822 051 20153	15K 5% 0.1W
3292	4822 051 20153	15K 5% 0.1W
3293	4822 051 20153	15K 5% 0.1W
3294	4822 051 20153	15K 5% 0.1W
3295	4822 051 20153	15K 5% 0.1W
3296	4822 051 20153	15K 5% 0.1W
3297	4822 051 20153	15K 5% 0.1W
3298	4822 051 20153	15K 5% 0.1W
3299	4822 051 20472	4K7 5% 0.1W
3301	4822 051 20102	1K 5% 0.1W
3302	4822 051 20102	1K 5% 0.1W
3303	4822 051 20102	1K 5% 0.1W
3304	4822 116 52175	100R 5% 0.5W
3305	4822 116 52175	100R 5% 0.5W
3306	4822 116 52175	100R 5% 0.5W
3307	4822 116 52271	33K 5% 0.5W
3308	4822 116 52269	3K3 5% 0.5W
3310	4822 051 20102	1K 5% 0.1W
3311	4822 116 90346	6K8 5%
3315	4822 051 20332	3K3 5% 0.1W
3401	4822 051 20683	68K 5% 0.1W
3402	4822 051 20223	22K 5% 0.1W
3404	4822 051 20104	100K 5% 0.1W
3405	4822 051 20334	330K 5% 0.1W
3533	4822 051 20472	4K7 5% 0.1W
3540	4822 051 20561	560R 5% 0.1W
3541	4822 051 20471	470R 5% 0.1W
3543	4822 051 20102	1K 5% 0.1W
3544	4822 051 20102	1K 5% 0.1W
3545	4822 051 20153	15K 5% 0.1W
3546	4822 051 20224	220K 5% 0.1W
3601	4822 111 91536	JUMPER
3602	4822 051 20393	39K 5% 0.1W
3603	4822 051 20304	300K 5% 0.1W
3607	4822 051 20153	15K 5% 0.1W
3608	4822 051 20153	15K 5% 0.1W
3609	4822 051 20103	10K 5% 0.1W
3610	4822 051 20122	1K2 5% 0.1W
3611	4822 116 90341	22R 5% 0.1W
3614	4822 051 20225	2M2 5% 0.1W
3615	4822 051 20225	2M2 5% 0.1W
3616	4822 051 20759	75R 5% 0.1W
3617	4822 051 20153	15K 5% 0.1W
3618	4822 051 20393	39K 5% 0.1W
3619	4822 051 20824	820K 5% 0.1W
3620	4822 116 90336	100R 5%
3621	4822 051 20222	2K2 5% 0.1W
3622	4822 116 90338	1K5 5%
3623	4822 051 20472	4K7 5% 0.1W
3624	4822 051 20824	820K 5% 0.1W

3625	4822 116 90336	100R 5%
3626	4822 051 20222	2K2 5% 0.1W
3627	4822 116 90338	1K5 5%
3628	4822 051 20472	4K7 5% 0.1W
3630	4822 111 91536	JUMPER
3632	4822 111 91536	JUMPER
3634	4822 111 91536	JUMPER
3801	4822 116 52233	10K 5% 0.5W
3802	4822 116 52284	47K 5% 0.5W
3901	4822 116 90434	1K 1% 0.25W
3902	4822 116 90434	1K 1% 0.25W
3910	4822 051 20109	10R 5% 0.1W
3911	4822 051 20104	100K 5% 0.1W
3912	4822 051 20223	22K 5% 0.1W
3913	4822 051 20153	15K 5% 0.1W
3914	4822 051 20109	10R 5% 0.1W
3916	4822 051 20102	1K 5% 0.1W
3918	4822 051 20751	750R 5% 0.1W
3919	4822 051 20472	4K7 5% 0.1W
3922	4822 051 20102	1K 5% 0.1W
3923	4822 051 20331	330R 5% 0.1W
3927	4822 051 20103	10K 5% 0.1W
3930	4822 051 20102	1K 5% 0.1W
3934	4822 051 20103	10K 5% 0.1W
3935	4822 051 20103	10K 5% 0.1W
3936	4822 051 20103	10K 5% 0.1W

5105	4822 156 11081	Quad. det.
5112	4822 157 50975	1mH
5130	4822 157 53669	Choke 90mH
5145	4822 157 50975	1mH
5146	4822 157 50975	1mH
5350	4822 157 53575	3.3µH
5351	4822 156 11128	RF-FM
5352	4822 156 11128	RF-FM
5353	4822 156 11129	RF-FM
5354	4822 157 53575	3.3µH
5402	4822 157 50975	1mH
5519	4822 157 53575	3.3µH
5520	4822 152 20677	10µH
5521	4822 152 20677	10µH
5522	4822 152 20677	10µH
5523	4822 157 52983	22µH
5524	4822 157 50975	1mH
5525	4822 152 20683	Osc.
5526	4822 156 31021	IF
5527	4822 152 20678	33µH
5528	4822 157 52983	22µH
5601	4822 156 21438	Low pass
5602	4822 156 21438	Low pass
5801	4822 157 50975	1mH
5901	4822 157 50975	1mH
5902	4822 152 20678	33µH

1157	4822 900 10166	EEPROM Main TA1M-B.1
1158	4822 209 71521	EEPROM Radio
6108	4822 209 72894	TDA1516BQ AF amp.
6109	4822 209 72894	TDA1516BQ AF amp.
6112	4822 209 73504	TEA6300/V2 SOFAC
6113	4822 209 72894	TDA1516BQ AF amp.
6114	4822 209 72894	TDA1516BQ AF amp.
6119	4822 209 72227	L4916 Stab.
6122	4822 209 72227	L4916 Stab.
6125	4822 209 72227	L4916 Stab.
6128	4822 209 72252	L4904 Stab.
6165	4822 209 63495	µC Main MTA1-A3B
6166	4822 209 63491	µC Radio RTA1-A1A
6169	4822 209 72042	MC78L05ACPRA Stab.
6303	4822 209 61406	TEA6101/N1 Ant.div.
6401	4822 209 83159	LA2000 Pause det.
6402	4822 209 11756	PCF80C51BH-3P µC RDS
6511	4822 209 72247	TEA6200/V1 AM-RF/IF
6801	4822 209 61405	PCF84C21P/035 µC Bus
6802	5322 209 83269	SAA1045P Bus Interf.
6905	4822 209 73507	TEA6100/N3 MUSTI Q
6906	4822 209 61954	TSA6057/C5/S1 SYMO

BC817-40	4822 130 42615
BC847	4822 130 42705
BC857	4822 130 61233
BC858B	5322 130 41983
BD438	4822 130 40995
BSF19	4822 130 42353
BA482	5322 130 34955
BAT85	4822 130 31983
BB112	4822 130 32227
BYV79-50	4822 130 61809
1N4001	4822 130 31438
1N4148	4822 130 30621

MISCELLANEOUS

1155	4822 214 51676	Thi-Fi IAC
1163	4822 242 71508	Ceram. filter 6MHz
1164	4822 242 72862	Crystal 10.7MHz
1401	4822 214 51703	Hybrid RDS
1402	4822 242 72864	Crystal 4.322 MHz
1559	4822 242 72343	Crystal 10.7MHz
1560	4822 242 72343	Crystal 10.7MHz
1565	4822 242 71883	Ceram. filter 10.7MHz
1601	4822 214 51677	Thi-Fi stereo decoder
1801	4822 242 72863	Ceram. filter 8MHz
1901	4822 214 51674	Thi-Fi Info
1902	4822 242 71874	Crystal 4MHz
1903	4822 242 71883	Ceram. filter 10.7MHz

4241

Car cassette deck SCA

Version 1.1

Service
Service
Service

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für Philips Car Systems
erhalten Sie bei:
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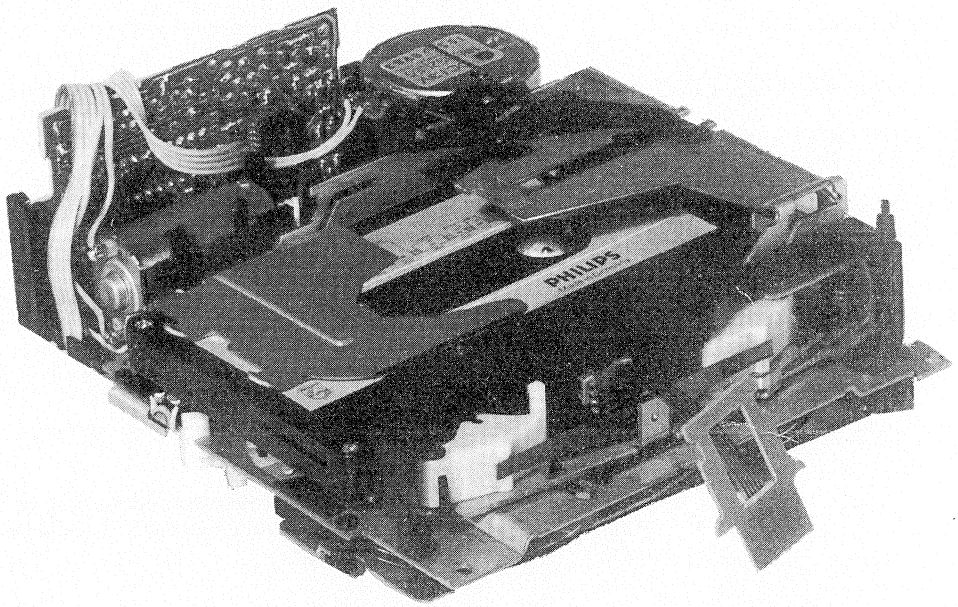
Service Manual

12 V



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(GB)

SPECIFICATION

Tape speed	: 4.76 cm/sec. ± 2% (10-45°C)
Working voltage	: 10.0-16.0 V
Wow and flutter	: ≤ 0.3% (10-45°C) DIN
Crosstalk	: ≥ 36 dB (1 kHz)
Fast wind time (C60)	: ≤ 120 sec.
Number of tracks	: 2 x 2

MAINTENANCE

It is recommended to clean the tape transport and lubricate the principal points at regular intervals.

1. To be cleaned with alcohol or spirit

- Playback head, capstans, pressure rollers, pulleys.

To clean head, pressure roller and capstan it is also possible to use a drop-in cleaning cassette (SBC114-4822 389 20035).

2. Lubricating instructions

- See exploded view EVA687.

SERVICING HINTS

Because of the risk of ESD, it is recommended that panel 52 should be removed before carrying out repairs.
In some places parts are locked by synthetic bosses. To be able to demount these parts, the bosses have to be bent, displaced, etc. Gearwheels 58, 59 and clutch 51 are attached to the spindles by means of a snap connection. These parts can be demounted with a screwdriver.
After disassembly, ring 60 is not reusable and should be replaced.
For replacement of the various parts see Figs. 1...7.

Notes

1. Do not forget to unlock spring 503 again after carrying out repairs.
2. When fitting, check that the bearing bush of servo-motor 1002 is pressed back in the plastic holder in the correct position.
3. Check that segments 66 and bracket 71 are fitted in the correct position. See Fig. 6. Then unlock the segments
4. After fitting switch lever 72, the leaf spring should be pressed over the black lug of the chassis.

ADJUSTMENTS AND CHECKS

Measuring equipment and tools required

- Universal test cassette SBC419 - 4822 397 30069
- Universal test cassette SBC420 - 4822 397 30071
- Friction test cassette - 4822 395 30054
- Puller for clutch - 4822 395 60039
- AC millivoltmeters
- Spring scale 3-55 g
- Wow-and flutter meter

1. Frictions

- Insert the friction test cassette.
  The play take-up torque should be 75 to 85 g.cm in position "normal play", measured after a 2-minute run-in time; in the "reverse" position >65 grcm.
  The friction can be set using potentiometer 3415 (on panel 52).
- The supplying reel drag should be 3.0 - 6.5 g.cm (both directions).
- If the value obtained deviates from the norm, check the lubrication of the spindle of the carrier in question. If this is correct, replace the carrier.

2. Wow and flutter/tape speed

This check should be performed on a complete car radio. Proceed as follows:

- Connect wow-and-flutter meter to loudspeaker outputs.
- Insert test cassette SBC419 or SBC420 and play the 3150 Hz signal.
- The wow-and-flutter value should be max. 0.25%.
- The tape speed should be 4.76 cm/sec ±2%.
  The speed can be adjusted with screw A (Fig. 8).

In case of excessive wow-and-flutter values the following components should be checked for correct working (adjustment).

- motors 1002, 1003
- pressure rollers 68
- friction clutch 51
- flywheels 77
- belt 79
- pulley 76

3. Flywheel 77

- See Fig. 9.

4. Pressure roller 68

- Check acc. to Fig. 10.

The pressure of the pressure roller cannot be adjusted; in case of a deviating value spring 67 should be replaced.

(NL)

SPECIFIKATIE

Bandsnelheid	: 4.76 cm/sec. ± 2% (10-45°C)
Werkspanning	: 10.0-16.0 V
Wow en flutter	: ≤ 0.3% (10-45°C) DIN
Overspraak	: ≥ 36 dB (1 kHz)
Omspoeltijd (C60)	: ≤ 120 sec.
Aantal sporen	: 2 x 2

ONDERHOUD

Het dient aanbeveling het loopwerk periodiek te reinigen en op de belangrijkste punten te smeren

1. Schoonmaken met alkohol of spiritus

- Weergeefkop, toonassen, drukrollen, poelies.

Voor het reinigen van kop, drukrol en toonas,kan ook een "drop in" reinigingscassette worden gebruikt (SBC114-4822 389 20035).

2. Smeervoorschrift

- Zie exploded view EVA687.

REPERATIEWENKEN

In verband met ESD-gevaar wordt aanbevolen paneel 52 te verwijderen alvorens met repareren te beginnen.
Op een aantal plaatsen zijn onderdelen vergrendeld door kunststof nokjes. Om deze onderdelen te kunnen demonteren moeten de nokjes worden verbogen, verdraaid, enz. Tandwielen 58, 59 en koppeling 51 zijn op de assen bevestigd met een snap-verbinding.
Met behulp van een schroevedraaier zijn deze onderdelen te demonteren.
Ring 60 is na demontage niet meer bruikbaar en moet worden vervangen.
Voor vervanging van diverse onderdelen zie Fig. 1...7.

Opmerkingen

1. Vergeet niet om veer 503 weer te ontgrendelen na reparaties.
2. Let op, dat de lagerbus van Servomotor 1002 bij montage weer in de juiste stand in de kunststof houder wordt gedrukt.
3. Let op, dat de segmenten 66 en beugel 71 in de juiste stand worden gemonteerd. Zie Fig. 6. Daarna de segmenten ontgrendelen.
4. Na montage van schakelhefboom 72 moet de bladveer over het zwarte nokje van het chassis worden gedrukt.

INSTELLINGEN EN KONTROLES

Benodigde meetinstrumenten, hulpmiddelen

- Universele testcassette SBC419 - 4822 397 30069
- Universele testcassette SBC420 - 4822 397 30071
- Friktie testcassette - 4822 395 30054
- Hulpstuk, demontage friktie - 4822 395 60039
- AC millivoltmeters
- Veerdrukmeter 3-55 g
- Wow & flutter meter

1. Frikties

- Breng de friktie-testcassette in het apparaat.
  In stand "normal play" moet de opspoelfriktie 75-85 grcm bedragen, gemeten na inlooptijd van 2 min.; in stand "reverse" >65 grcm.
  De friktie kan worden ingesteld met pot.meter 3415 (op paneel 52).
- De tegenfriktie moet 3,0-6,5 grcm bedragen (beide richtingen).
- Bij afwijkende waarde de smering van de as van de desbetreffende meenemer kontroleren. Als deze goed is de meenemer vervangen.

2. Wow & flutter/bandsnelheid

De kontrole dient te geschieden met de auto radio compleet en wel als volgt:

- Sluit wow & flutter meter aan op de L.S. uitgangen.
- Breng testcassette SBC419 of SBC420 in en geef het 3150 Hz signaal weer.
- De jengelwaarde moet ≤ 0,25% zijn.
- De bandsnelheid moet zijn 4,76 cm/sec ± 2%.
  De snelheid kan worden ingesteld met schroef A (Fig. 8).

Bij een buitensporige jengelwaarde dienen volgende onderdelen op hun juiste werking (instelling) te worden gekontrolleerd.

- motoren 1002, 1003
- drukrollen 68
- friktie koppeling 51
- vliegwielen 77
- snaar 79
- snaarwiel 76

3. Vliegwiel 77

- Zie Fig. 9.

4. Drukrol 68

- Kontrole volgens Fig. 10.

De drukrolkracht is niet in te stellen; bij een afwijkende waarde dient veer 67 vervangen te worden.

(F)

SPECIFICATIONS

Vitesse de bande	: 4.76cm/sec. ± 2% (10-45°C)
Tension de fonctionnement	: 10.0-16.0 V
Pleurage et scintillement	: ≤ 0.3% (10-45°C) DIN
Diaphonie	: ≥ 36 dB (1 kHz)
Temps de bobinage (C60)	: ≤ 120 sec.
Nombre de pistes	: 2 x 2

MAINTENANCE

Nous vous conseillons de nettoyer régulièrement la mécanique et de lubrifier ses points essentiels.

1. Nettoyage à l'alcool ou à l'alcool à brûler

- Tête, cabestans, galets presseur, poulies.

La tête, le galet presseur et le cabestan peuvent également être nettoyés grâce à la cassette de nettoyage "drop in" (SBC114-4822 389 20035).

2. Lubrification

- Voir vue éclatée EVA687.

CONSEILS SERVICE

Du fait du danger de décharges électrostatiques, il est recommandé de retirer le paneau 52 avant de commencer toute réparation.
A un nombre d'endroits, des composants sont bloqués par des cames en synthétique. Ces cames doivent être écartées ou repliées afin de pouvoir démonter ces composants. Les roues dentées 58, 59 et la friction 51 sont fixés sur les axes par une fixation à déclic. Démonter ces éléments à l'aide d'un tournevis.
La bague 60 n'est plus utilisable après le démontage et doit être remplacée.
Voir aux Fig. de 1 à 7 lorsqu'il s'agit de remplacer certain éléments.

Remarques

1. N'oubliez pas de débloquer à nouveau le ressort 503 après avoir effectué les réparations.
2. Veillez à ce que le coussinet du Servomotor 1002 revienne dans sa position dans le support en plastique.
3. Assurez-vous que les segments 66 et l'étrier 71 soient montés dans la position correcte. Référez-vous à ce sujet à la Fig. 6. Débloquez ensuite les segments.
4. Après le montage du levier de commande 72, le ressort à lames doit être amené sur la butée noire du châssis.

REGLAGES ET CONTROLES

Instruments de mesure et outillage requis

- Cassette d'essai universelle SBC419 - 4822 397 30069
- Cassette d'essai universelle SBC420 - 4822 397 30071
- Cassette d'essai friction - 4822 395 30054
- Instrument demontage friction - 4822 395 60039
- Millivoltmètre en alternatif
- Dynamomètre 3-55 gr
- Instrument de mesure du pleurage et scintillement.

1. Frictions

- Mettre la cassette de friction dans l'appareil.
  Le couple d'enroulement doit présenter entre 75 et 85 grcm dans position "normal play", mesuré après une durée de démarrage de 2 min.; en mode "revers" >65 grcm.
  La friction peut être réglée à l'aide du potentiomètre 3415 (sur le panneau 52).
- La contre-friction doit se situer entre 3,0-6,5 grcm (dans les deux sens).
- En cas de valeur divergente, contrôlez le graissage de l'axe de l'entraîneur concerné. Si le graissage est suffisant, remplacez l'entraîneur

2. Pleurage et scintillement/vitesse de défilement

Le contrôle devra être effectué lorsque l'autoradio est au complet.

- Brancher l'instrument du pleurage et scintillement sur les sorties de haut-parleurs.
- Placer la cassette d'essai SBC419 ou SBC420 et reproduire le signal de 3150 Hz.
- Le taux de pleurage doit être ≤ 0,25 %.
- La vitesse de défilement être de 4,76 cm/sec ± 2 %. La vitesse peut être réglée par la vis A (Fig. 8).

Lorsque le taux de pleurage est dépassé, il faut verifier le fonctionnement de les éléments suivants:

- moteurs 1002, 1003
- galets presseur 68
- friction 51
- volants 77
- courroie 79
- poulie 76

3. Volant 77

- Voir Fig. 9.

4. Galet-presseur 68

- Vérification selon Fig. 9.

La force de pression n'est pas réglable, si on obtient une autre valeur il suffira de remplacer le ressort 67.

EJECTOR 61, HOLDER 63, LIFT 64

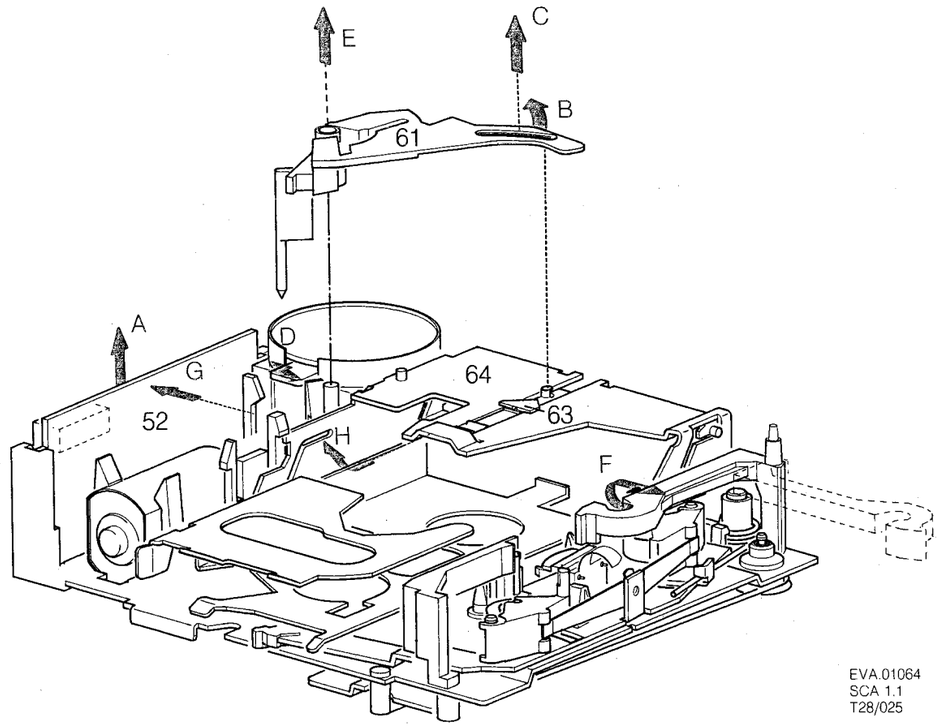


Fig. 1

CLUTCH 51, SWITCH 53, GEAR WHEEL 58, CARRIER 62

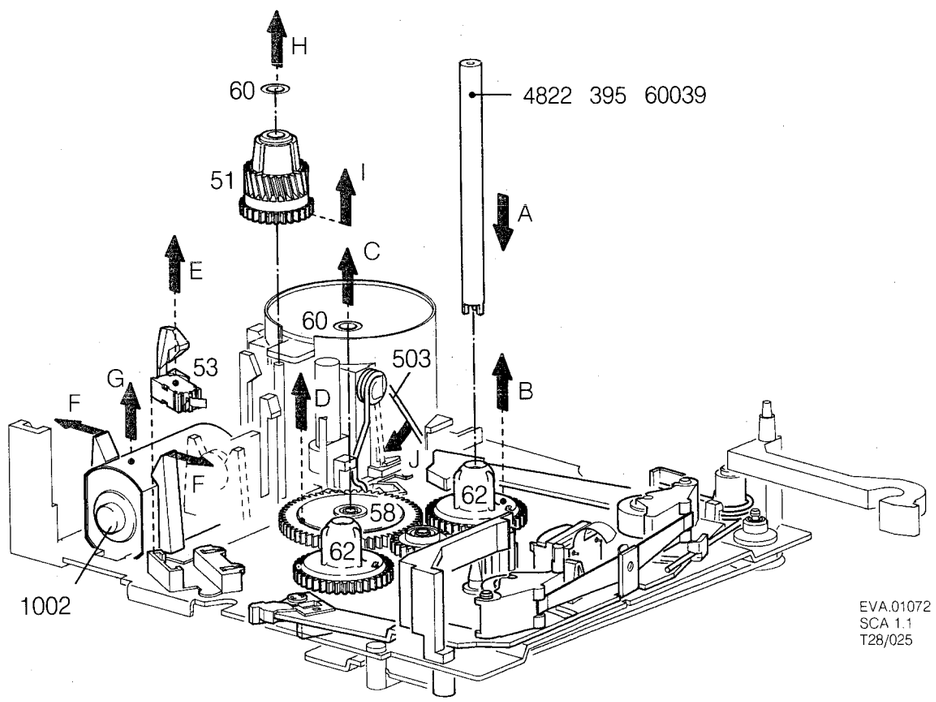


Fig. 2

PRESSURE ROLLER 68, HEAD BRACKET 73, HEAD 1004

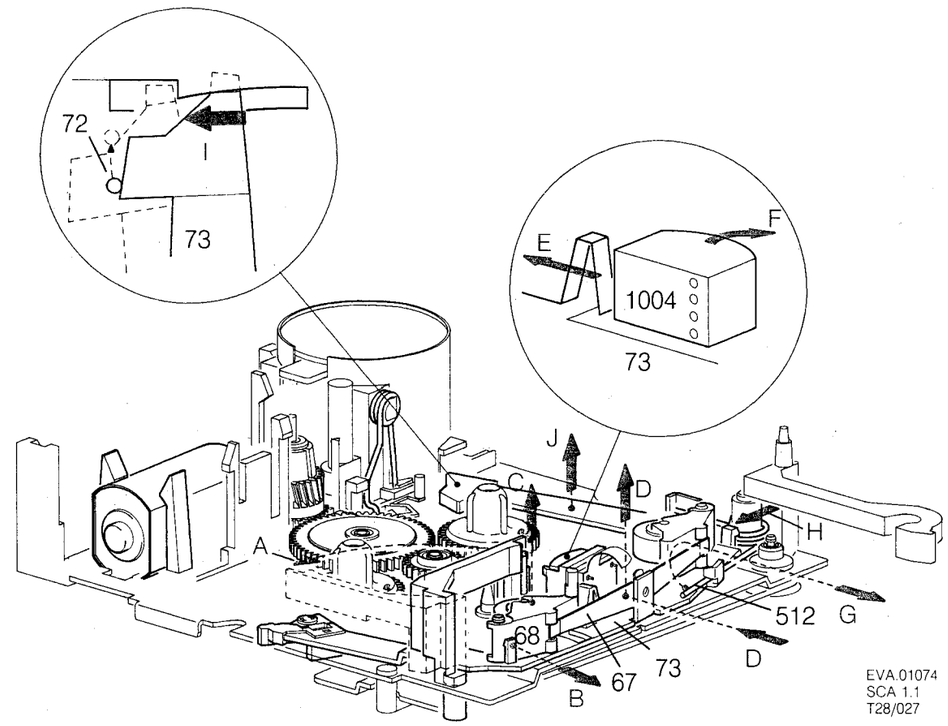


Fig. 3

ANCHOR 56/78, RELAY 1001

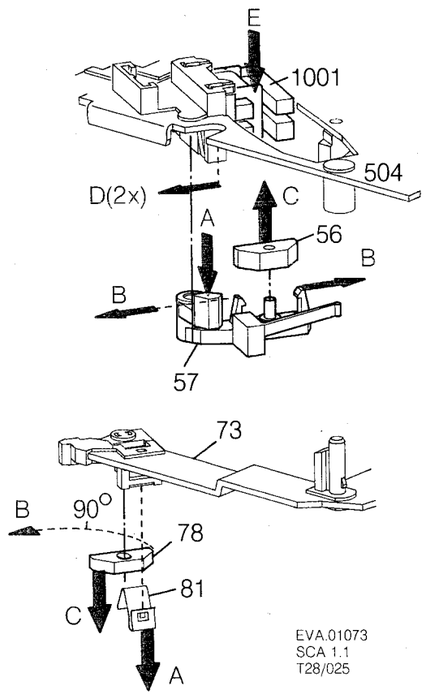


Fig. 4

FLYWHEEL 77, BELT 79

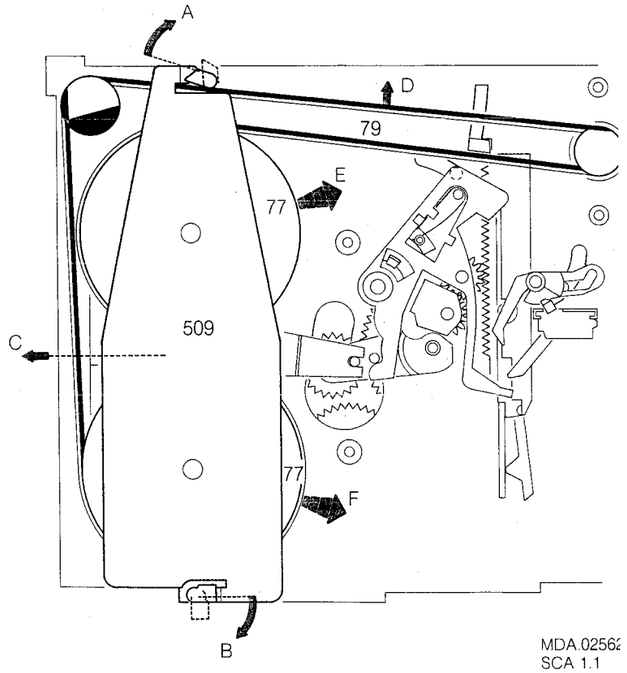
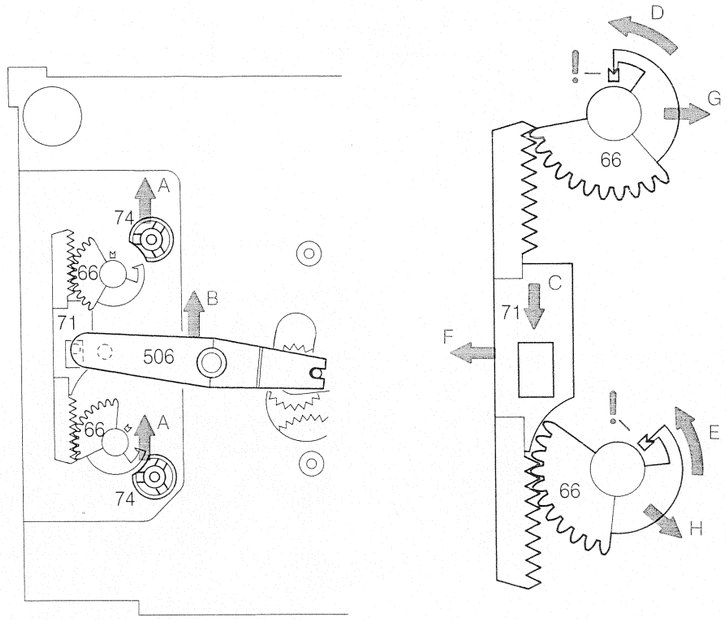


Fig. 5

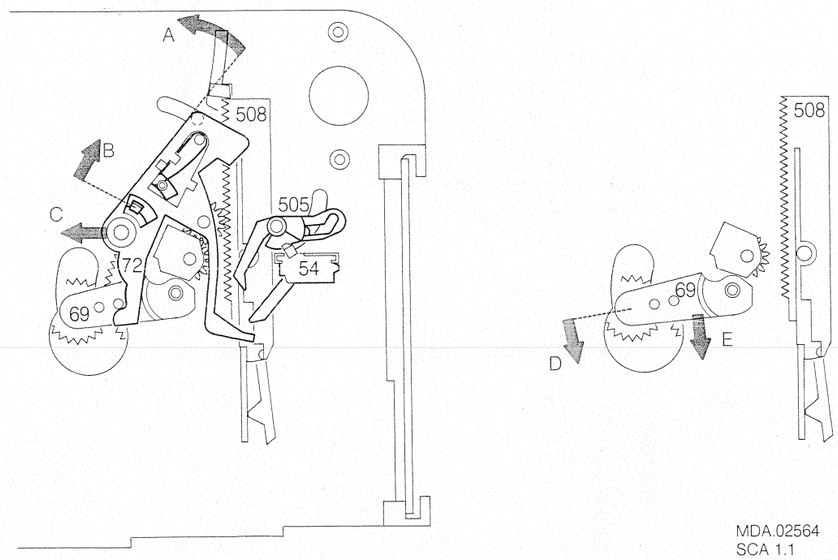
SEGMENT 66, BRACKET 71, BEARING 74



MDA.02563
SCA 1.1
T23/023

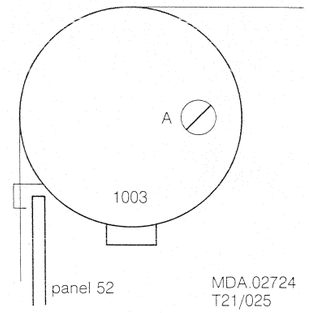
Fig. 6

SWITCH 54, SWIVEL GEAR 69, LEVER 72



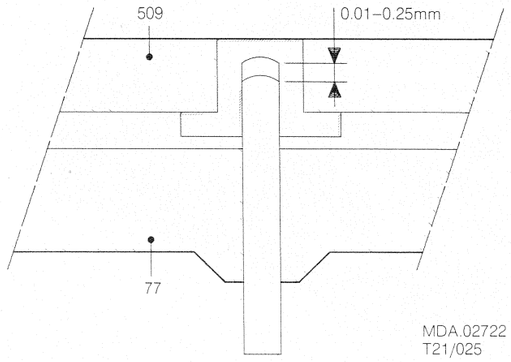
MDA.02564
SCA 1.1
T28/025

Fig. 7



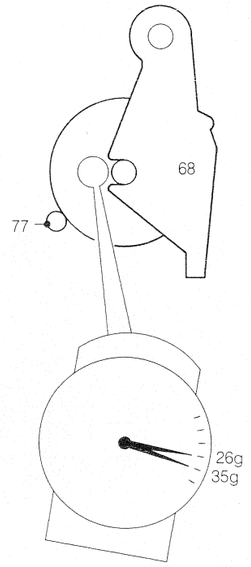
MDA.02724
T21/025

Fig. 8



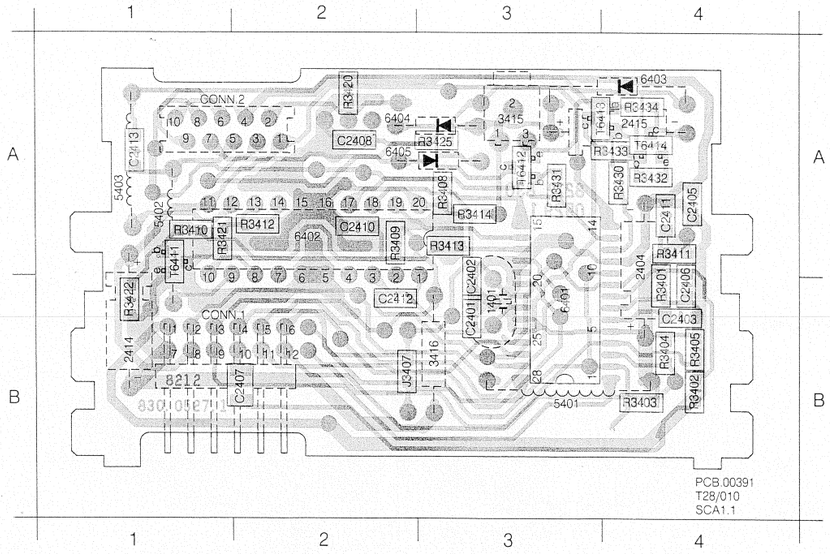
MDA.02722
T21/025

Fig. 9



MDA.02723
T21/025

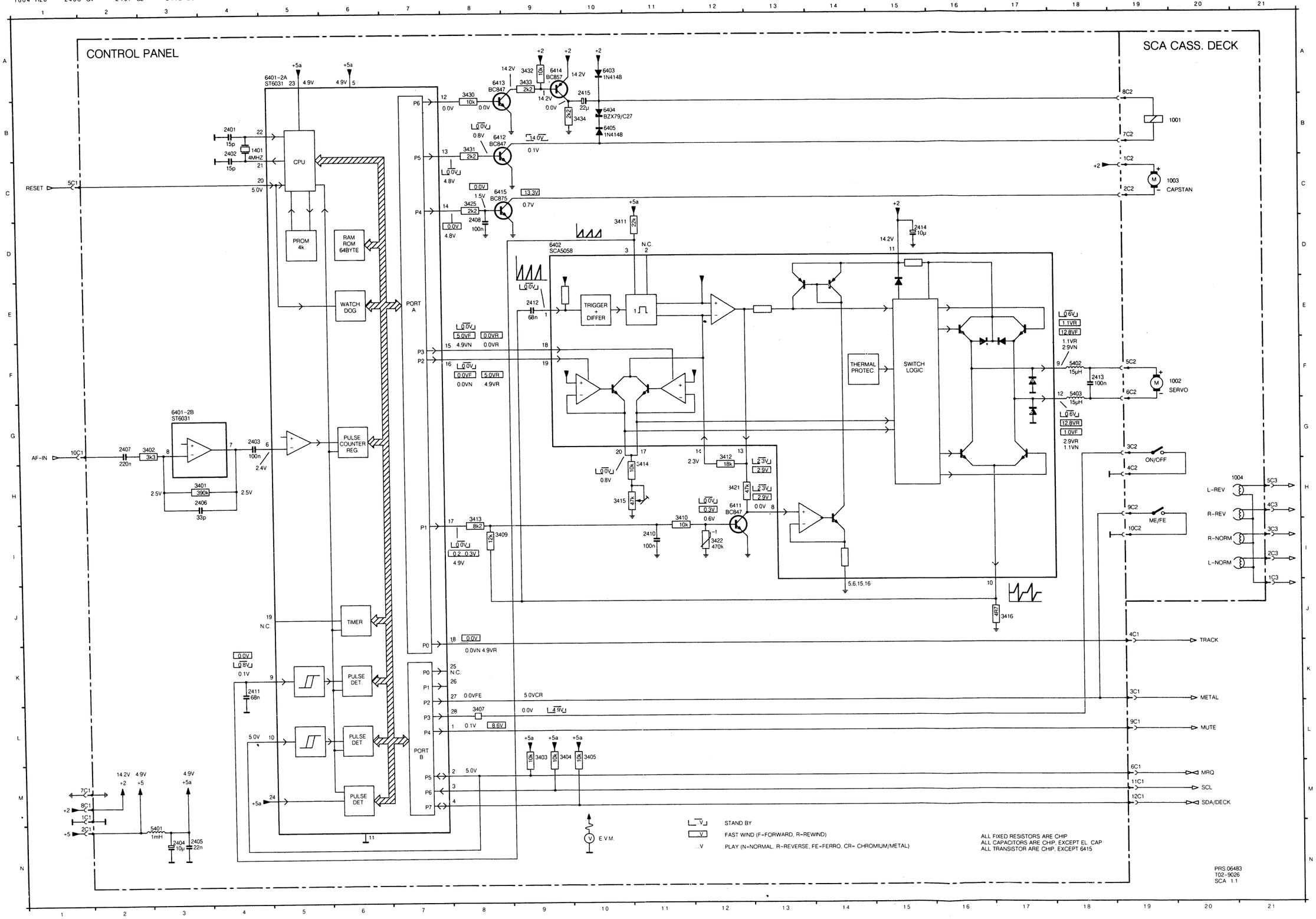
Fig. 10



SCALE 1.5

1401	B3	C2413	A1
2404	A4	J3407	B2
2414	B1	R3401	B4
2415	A4	R3402	B4
3415	A3	R3403	B4
3416	B3	R3404	B4
5401	B3	R3405	B4
5402	A1	R3408	A3
5403	A1	R3409	A2
6401	B3	R3410	A1
6402	A2	R3411	A4
6403	A4	R3412	A2
6404	A2	R3413	A3
6405	A2	R3414	A3
C2401	B3	R3420	A2
C2402	B3	R3421	A1
C2403	B4	R3422	B1
C2405	A4	R3425	A3
C2406	B4	R3430	A4
C2407	B2	R3431	A3
C2408	A2	R3432	A4
C2410	A2	R3433	A4
C2411	A4	R3434	A4
C2412	B2	T6411	A1
		T6412	A3
		T6413	A3
		T6414	A4

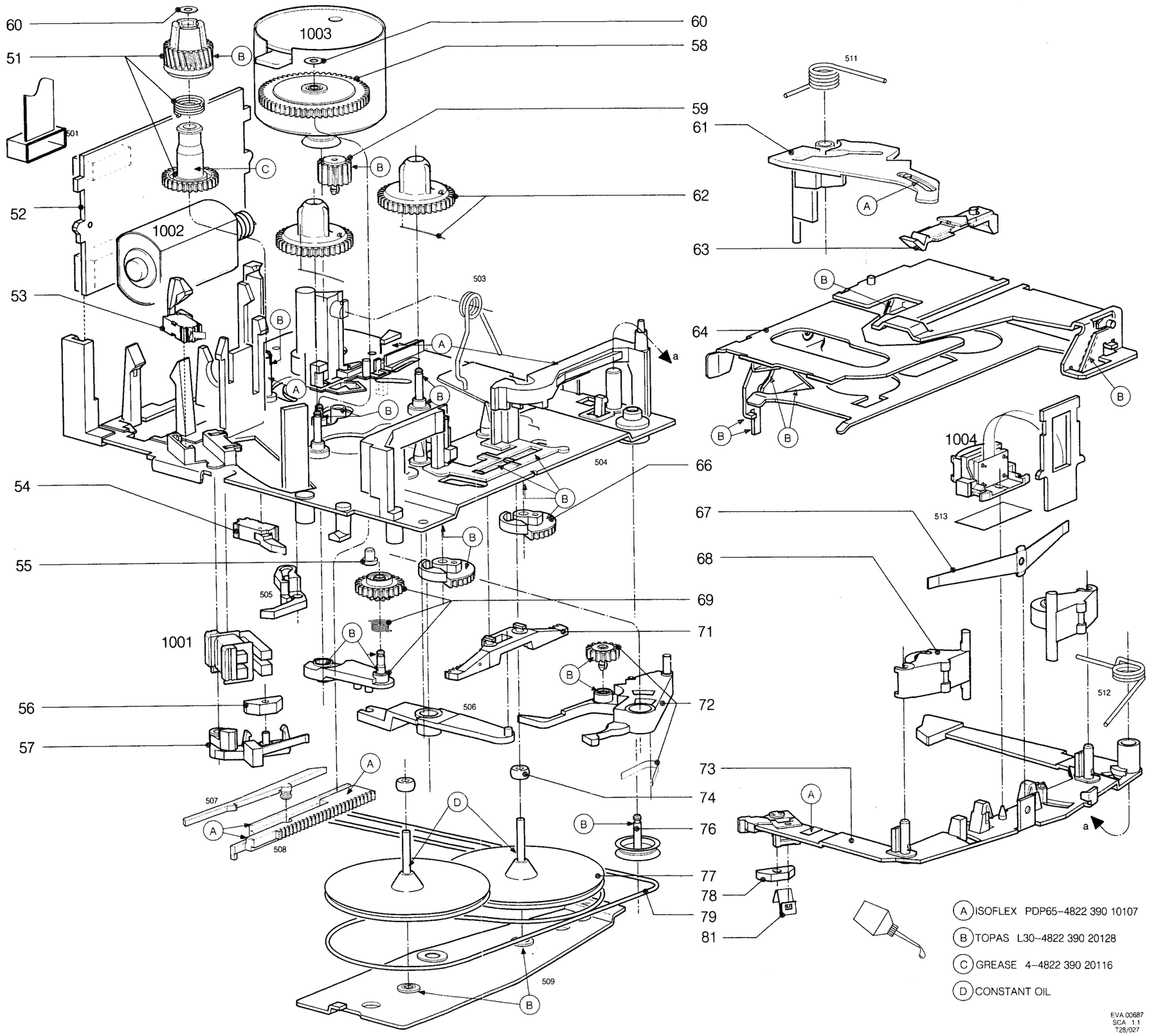
1001 B20	1401 B4	2404 N3	2408 D8	2413 F18	3402 G3	3407 L8	3412 G12	3416 J17	3430 A8	3434 B10	6401 A5	6404 B10	6413 A8
1002 F19	2401 B4	2405 N3	2410 I11	2414 D15	3403 L9	3409 I8	3413 H8	3421 H12	3431 B6	5401 N3	6401 G3	6405 B10	6414 A9
1003 C19	2402 B4	2406 H3	2411 K4	2415 A10	3404 L9	3410 H11	3414 H11	3422 I12	3432 A9	5402 F18	6402 D9	6411 H12	6415 C8
1004 H20	2403 G4	2407 G2	2412 E9	3401 H3	3405 L10	3411 D10	3415 H10	3425 C8	3433 A9	5403 F18	6403 A10	6412 B8	



CS 30 683

A	4822 390 10107
B	4822 390 20128
C	4822 390 20116
51	4822 522 10435
52	4822 214 51815
53	4822 277 11216
54	4822 277 11215
55	4822 502 12548
56	4822 404 21084
57	4822 404 21087
58	4822 522 32868
59	4822 522 32871
61	4822 404 21091
62	4822 528 10776
63	4822 404 21092
64	4822 466 82631
66	4822 522 32869
67	4822 492 70557
68	4822 528 81377
69	4822 528 70658
71	4822 404 21089
72	4822 404 21086
73	4822 404 21088
74	4822 520 30519
76	4822 528 81385
77	4822 528 81378
78	4822 404 21083
79	4822 358 31053
81	4822 492 70556
1001	4822 281 11051
1002	4822 361 30297
1003	4822 361 30294
1004	4822 249 30157

deck complete 4822 691 10314
(without panel)



EVA 00687
SCA 1.1
T28/027

(D)

SPEZIFIKATION

Bandgeschwindigkeit	: 4.76 cm/s ± 2% (10-45°C)
Arbeitsspannung	: 10.0-16.0 V
Gleichlaufschwankungen	: ≤ 0.3% (10-45°C) DIN
Uebersprechen	: ≥ 36 dB (1 kHz)
Umspuldauer (C60)	: ≤ 120 sec.
Spurenzahl	: 2 x 2

WARTUNG

Es empfiehlt sich, das Laufwerk in regelmässigen Zeitabständen zu reinigen und an den wichtigsten Stellen zu schmieren.

1. Reinigen mit Alkohol oder Spiritus

- Kopf, Tonwellen, Andruckrollen, Seilrollen

Zum Reinigen von Kopf, Druckrolle und Tonwelle kann auch eine s.g. "drop-in"-Reinigungscassette (SBC114-4822 389 20035) benutzt werden.

2. Schmiervorschrift

- Siehe Explosionsansicht EVA687.

REPARATURHINWEISE

Wegen der Gerfahr von elektrischen Schlägen empfiehlt es sich, die Platine 52 vor beginn der Reparatur zu enfernen.
An einigen Stellen sind Bauteile durch Kunststoffnocken verriegelt. Zum Ausbau dieser Bauteile müssen die Nocken verbogen, verdreht usw. werden.
Die Zahnräder 58, 59 und die Kupplung 51 sind durch eine Einschnapverbindung an den Achsen befestigt. Mit Hilfe eines Schraubenziehers lassen sich diese Bauteile ausbauen.
Der Ring 60 ist nach dem Ausbauen nicht mehr zu gebrauchen und muss ausgetauscht werden.
Zum Auswechseln der Bauteile siehe Bildern 1...7.

Anmerkungen:

1. Die Feder 503 nach der Reparatur wieder entriegeln.
2. Die Lagerbuchse des Servomotors 1002 beim Zusammenbauen wieder in der richtigen Stellung in die Kunststoffhalterung drücken.
3. Die Segmente 66 und den Bügel 71 in der richtigen Stellung einbauen. Siehe Abb. 6. Anschliessend die Segmente entriegeln.
4. Nach dem Einbauen des Schalthebels 72 muss die Blattfeder über die schwarze Nocke am Chassis gedrückt werden.

EINSTELLUNGEN UND KONTROLLEN

Benötigte Messgeräte, Hilfsmittel

- Universal-Testcassette SBC419 - 4822 397 30069
- Universal-Testcassette SBC420 - 4822 397 30071
- Friktions-Testcassette - 4822 395 30054
- Abzieher für Friktion - 4822 395 60039
- Wechselspannungs-Millivoltmeter
- Federwaage 3-55 gr
- Gleichlaufanalysator

1. Friktionen

- Friktions-Testcassette in das Gerät einlegen. Die Aufwickelfriktion muss für "normal play" 75-85 grcm betragen, gemessen nach einer Einlaufdauer von 2 Minuten; in der Stellung "reverse" >65 grcm. Die Friktion lässt sich met Potentiometer 3415 (auf Platine 52) einstellen.
- Der Gegenzug muss für beide Richtungen 3,0-6,5 grcm betragen.
- Bei abweichendem Wert die Schmierung der Achse des entsprechenden Mitnehmers überprüfen. Bei einwandfreier Schmierung den Mitnehmer austauschen.

2. Gleichlaufschwankungen/Bandgeschwindigkeit

Es muss mit dem Autoradio komplett kontroliert werden, und zwar wie folgt.

- Gleichlaufanalysator an die Lautsprecherausgänge schalten
- Testcassette SBC419 oder SBC420 einlegen und das 3150-Hz-Signal wiedergeben.
- Der Jaulwert muss ≤ 0,25% sein.
- Die Bandgeschwindigkeit muss 4,76 cm/s ±2% betragen.
  Die Geschwindigkeit lässt sich mit Schraube A (Bild 8) einstellen.

Bei einem übermässigen Jaulwert müssen folgende Teile auf ihre richtige Arbeitsweise (Einstellung) kontrolliert werden

- Motore 1002, 1003
- Andruckrolle 68
- Reibkupplung 51
- Schwungräder 77
- Pese 79
- Rad 76

3. Schwungrad 77

- Siehe Bild 9.

4. Andruckrolle 68

- Kontrolle nach Bild 10.

Der Andruckrollendruck ist nicht einstellbar. Bei einem abweichenden Wert muss Feder 67 ausgewechselt werden.

Ⓘ

CARATTERISTICHE

Velocità del nastro	: 4,76 cm/sec. ± 2% (10-45°C)
Tensione di funzionamento	: 10,0-16.0 V
Wow e flutter	: ≤ 0,3% (10-45°C) DIN
Diafonia	: ≥ 36 dB (1 kHz)
Durata di avvolgimento	: ≤ 120 sec. (C60)
Numero di piste	: 2 x 2

MANUTENZIONE

Si raccomanda di pulire e lubrificare i principali punti del tape ad intervalli regolari.

1. Si deve usare alcool

- Testina, capstan, rullo pressore, pulegge.

Per la pulizia della testina, rullo pressore e capstan è possibile usare l'apposita cassetta "drop in" (SBC114-4822 389 20035).

2. Istruzioni per la lubrificazione

- Vedere esploso EVA687.

CONSIGLI DI SERVIZIO

A causa del pericolo ESD viene consigliato di smontare il pannello 52 prima di procedere alla riparazione.
Su certi punti dei componenti sono bloccati con came in materia sintetica. Queste came debbono essere scartate o ribaltate per poter smontare i componeti. Le ruote dentata 58, 59 e la frizioni 51 vengono fissate sui assi con un fissaggio a scatto. Smontare questi elementi tramite un cacciavite.
Dopo lo smontaggio, l'anello 60 non può essere riutilizzato ma deve essere sostituito.
Vedi alle Fig. da 1 a 7 per lo smontaggio di diversi elementi.

Note

1. Non dimenticare di disimpegnare la molla 503 a riparazione avvenuta.
2. Far attenzione che il cuscinetto del servomotore 1002 al montaggio venga spinto nella corretta posizione nel supporto sintetico.
3. Provvedere che i segmenti 66 e la staffa 71 vengano montati nella corretta posizione (ved. la Fig. 6). In seguito sbloccare i segmenti.
4. Dopo lo smontaggio della leva di comando 72, spingere la molla a lama sopra il nottolino nero del telaio.

CONTROLLI E REGOLAZIONI

Strumenti e accessori richiesti per le misure

- Cassetta test universale	SBC419-4822 397 30069
- Cassetta test universale	SBC420-4822 397 30071
- Cassetta test per la frizione	-4822 395 30054
- Ausiliare smontaggio frizione	-4822 395 60039

- Millivoltmetro AC
- Dinamometro 3-55 g
- Wow and flutter meter.

1. Frizioni

- Inserire la cassetta test per la frizione.
  La forza della frizione deve essere 75 o 85 g.cm in direzioni "normal play" misurata dopo 2 minuti che l'apparecchio funziona; nella posizione "reverse" >65 gr/cm.
  La frizione deve essere regolata con il potenziometro 3415 (sul pannello 52).
- La puleggia di controfrizione deve dare come misura 3,0-6.5 g.cm.
- In caso venga riscontrato un valore diverso, controllare la lubrificazione dell'asse in questione. Se risulta in ordine, sostituire il trascinatore.

2. Wow and flutter/velocità del nastro

Il controllo deve essere eseguito quando l'autoradio è completa e ciò in maniera seguente:
- Collegare lo strumento wow and flutter alle uscite degli altoparlanti.
- Inserire la cassetta test SBC419 o SBC420 e riprodurre il segnale a 3150 Hz.
- Il valore del wow and flutter deve essere come massimo dello 0,25%.
- La velocità del nastro deve essere 4.76 cm/sec ± 2%. La velocità può essere regolata con la vite A (Fig. 8).

In presenza di un valore eccessivo di wow and flutter si devono controllare i seguenti componenti in modo che il loro funzionamento sia corretto (regolazioni corrette).
- motori 1002, 1003
- rullo pressore 68
- innesto frizione 51
- volano 77
- cinghia 79
- pulegge 76

5. Volano 77

- Vedere Fig. 9

4. Rullo pressore 68

- Controllare alla Fig. 10.

La pressione del rullo pressore non può essere regolata; in caso di deviazione la molla 67 deve essere sostituita.